# **GREAT PROJECTS...** ...cot, map chest, Issue 296

turned rattles & bowl, mouldings



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...at the annual **Cheltenham show** 



regs for a folding table



- Map chest: Martin Aplin takes on another GW challenge
- Co-sleeper: Shaun Newman builds a very special cot
- Bolection: Phil Davy restores big door mouldings

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# Welcome

...to an issue packed with colour and invention. During my term as Editor of Good Woodworking I have been amazed by the glorious things you designers and makers do to wood to bring out its living essence. Just look at the detail picture above and vow to see Celebration of Craftsmanship & Design, previewed on p48, where everything that I love about wood – its figure, its versatility, its luminosity - goes on show. Maybe one day one of Gavin Munro's truly organic pieces, grown from the soil, **p60**, will be there too. In the meantime I love the bright red and mixed media of our cover piece, **p46**, which could well become a Significant Style, like the Faaborg Chairs that are still being sat in 100 years after they were made, **p54**. As I put this issue to bed I am preparing to hand over my eye-shade to Tegan Foley who has wide experience in this field of journalism, but before I go I would like to thank all my skilful contributors and readers for sharing your knowledge so willingly. I know you will give a huge welcome to Tegan and I hope to be back with a feature or three very soon....



Andrea Hargreaves, Editor



**Andrea Hargreaves** 



**Andy King** Technical Editor



**Dave Roberts** Consultant Editor



**Phil Davy** Consultant Editor

We endeavour to ensure all techniques shown in Good Woodworking are safe, but take no responsibility for readers' actions. Take care when woodworking and always use guards, goggles, masks, hold-down devices and ear protection, and above all, plenty of common sense. Do remember to enjoy yourself, though.

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# orking September 2015 Contents Tools • Projects • Techniques • Advice

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Richard Warmisham aims to make a statement with his Pop/Deco Chest in oak, birch ply, Corian & leather. See it at Cheltenham's famous show, previewed here

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Clean up on site with this DeWalt vac



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### **Bewildering bolection**

Phil Davy restores church door mouldings



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# Woodworking From the bench

Comment, insight, views and news of woodworkers from around the globe



# **Two more Skelton saws**

Shane Skelton has produced another couple of home-engineered saws. Following the dovetail saw, to which Mark Cass awarded an unreserved five stars, come first the carcass saw and, the latest, a sash saw featuring a sweeping tongue. This retails at £350, not cheap, but, justifies Shane: "To be honest, for the amount of work that goes into it, it is

probably quite cheap."

Two of his saws, including the sash, were being used at the New English Workshop summer courses so were being scrutinised by the likes of Chris Schwartz and Tom Fidgen, and readers can see the saws for themselves by visiting Shane's stand at the 'Harrogate' show, 20-22 November, see Offcuts.

# Makita launches finishing brad nailer

The new Makita LXT DBN500 brad nailer is engineered for 18-gauge finishing nails and from 15 to 50mm length so is particularly suitable for such work as doorway architraves and skirtings. Powered by one 18V lithium-ion battery, the motor develops a maximum output of 460W and will give approximately 1000 shots on a full charge. The magazine has the capacity to carry 110 nails and when empty the machine weighs 3.5kg.

The slim tip nose is not shielded from view as the front body line is only just ahead of the sight line. Nail depth can be controlled by adjustment without tools and an LED job light illuminates the target point. The anti dry-firing mechanism ensures that a nail is in the ready position or, if not positioned correctly, the nailer will not operate.

The nailer can be used in either bump-fire or sequential mode, and there is a trigger lock. It is supplied with safety goggles, nose adaptor, hex wrench and comes in a type 3 MACPAC connector case. For more info go to www.makitauk.com





### Flexcut Micro Tools

Flexcut has developed this range of micro tools for carving fine details. They can be purchased individually or in sets. There are two sets to choose from, chisel or skew, although both can be purchased if required.

The wooden-handled tools are designed for miniature work, cleaning up ridges created by gouge cuts, accessing tight spaces and carving fine details such as mouths and eyes, and adding texture to hair, fur and feathers.

Both can be easily sharpened on the Flexcut knife strop. As a bonus, sets come with a free tool roll to keep your tools handy and tidy, and which can be applied for direct from Flexcut while stocks last.

Flexcut intends producing more Micro Tool Sets in the future.

Individual chisels cost £16.96 inc VAT and sets £52.96 inc VAT. For more info go to www.brimarc.com



### News



The new UJK Technology Pocket Hole Jiq may be small, but it is designed to create strong, accurate joints quickly and simply, and it fits in the pocket! The user can make a hidden joint that needs no clamping and gluing, for tricky spaces like drawers or shelving.

A magnetic insert helps hold it in place while clamping. A dovetail recess allows you to securely link two or more jigs together for wider joints. It will join material from 13mm to 100mm thick. The jig is designed and made in Axminster. Devon and comes with a lifetime guarantee from the manufacturer. It costs £14.96 from www.axminster.co.uk



### *l*eritas stars in store

Either Vic Tesolin and/or Wally Wilson, two top demonstrators from Canadian company Veritas, will be visiting all the Axminster stores this month, focusing particularly on the new range of build-yourown planes. They will be taking you through the various blade, tote, knob and frog options and configurations to make sure you get a plane that that is just right for you. Vic and Wally will also be demonstrating PM-V11 chisels, various high-quality hand tools and sharpening techniques. They will be happy to answer any questions and offer advice on a wide range of Veritas products.

### September demos

- 3, The Trafalgar Way, Axminster EX13 5NG
- 5, Coast Road Retail Park, Norham Road, North Shields NE29 7UJ
- 6, Winchester Road, Basingstoke RG22 6HN
- 7, Cressex Business Park, Lincoln Road, High Wycombe HP12 3FF
- 9, Gateway 49 Trade Park, Kerfoot Street, Warrington WA2 8NT
- 10, Sheppey Way, Bobbing, Sittingbourne ME9 8QP
- 10, Bermuda Trade Park, Nuneaton CV10 7RA

For times please go to the relevant Axminster store page at www.axminster.co.uk.

Vic will also be demonstrating at Yandles, Martock on 4-5 September, plus both he and Wally will be at the European Woodworking Show at Cressing Temple Barns on 12-13 September, see Offcuts.

# The Goodlife's back

We can't promise pigs and Barbara and Tom but we can tell you that The Goodlife Centre has sprung up at various London venues with the purpose of teaching various crafts including woodwork. What the company calls learning spaces are situated at Waterloo. Embankment and Kings Cross. It was founded by tool aficionado Alison Winfield-Chislett, who began to teach basic DIY skills in London community halls in 2009 and devised a Tools for the Terrified day workshop. In 2011 she



co-wrote The Girl's Guide to DIY, published in six languages by New Holland Press, and, yes, men could benefit too! In the same year she acquired her first workspace at Waterloo.

One and 2-day, 6- and 12-week workshops are available for budding carpenters and cabinetmakers at prices from £175 including tools and materials. For more info go to www. thegoodlifecentre.co.uk

## Edwardian update

A distinctive Edwardian home in Aberdeenshire was recently given a new lease of life with the addition of an extension inspired by contemporary minimal design. Juxtaposed against the traditional hardwearing granite of the original building, the extension features durable Kebony cladding. Appearing to float in front of a stainless steel mesh, the timberwork gives the building a sense of lightness, contrasting with the solid granite of the main part of the house.

After painstakingly exploring all viable alternatives the owners took the advice of their architects and opted for Kebony, which acquires a grey patina over time. A sustainable alternative to tropical timber, Kebony is treated with a natural alcohol under conditions of heat and pressure to ensure structural stability and robustness even in exposed coastal locations.

HRI Architects first discovered Kebony when it was sourcing timber for the new Forestry Commission offices in Inverness. Local, sustainably-grown Scots pine was treated with Kebony and used for the project with great success. Mark Williams said: "We discovered a number of years ago that you can successfully use timber cladding in Scotland but only if it is carefully considered in terms of material selection and detailing. We use Kebony in many projects; it is 'pickled' with a natural alcohol that gives it the robustness required for the often challenging Scottish climate."

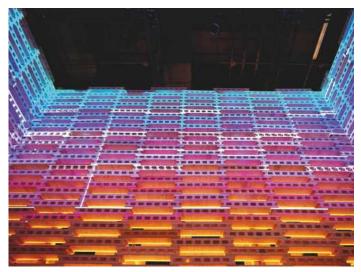


Cladding detail



The new cladding complements the old granite

### News



Traditional Japanese technology puts durability and colour into

# **East meets West**

An Austrian wood processor got together with a Japanese company to make a structure of wooden bricks for a Swiss design fair. The lounge of Outpost Basel was designed as a cube and combines geographical, material and cultural elements from America, Japan, Austria and Romania

Wood entrepreneur Gerald Schweighofer hooked up with architect Tom Kundig to build a structure of plates and wooden bricks. The bricks were finished using the ancient Japanese Sugi Ban technique, a woodburning method traditionally used to protect from rot and insects. The labour-intensive process involved charring, cooling, cleaning and finishing the wood with natural oils, which ultimately gives it a rich black hue. Kundig worked closely with Schweighofer, which applied the technique on-site at one of its wood panels specialist factories in Romania.

A semi-open space and a taller solid box made of wood bricks together formed Outpost Basel. As a tribute to the 10th anniversary of Design Miami/Basel the exterior of Outpost Basel was covered with a repeated X-shaped pattern.



Simon Smith in Pagan, powered by two Makita DHR243 18V brushless rotary hammer drills, pictured, won Makita's Cordless Tender Challenge in which contestants in boats under 10ft had to pick up a passenger and ferry her/him back to the start. The winner of the Canoe Challenge was Adam Brown in a craft powered by two DHP4546 18V combi drills





### OURSEDIAR

Give yourself a late-summer treat by booking a place on one or more of these tempting courses.

September 7-11 Sack-back 28 Sept-3 Oct Continuous-arm

The Windsor Workshop Churchfield Farm, Church Street West Chiltington, Pulborough West Sussex, RH20 2|W

3-6 Make simple furniture, complete beginners 4-6 Woodcarving, beginners

14 Woodturn small bowl 15-18 Woodturn wet & seasoned wood bowls

20-25 Detailed occasional table

West Dean College West Dean, Nr Chichester West Sussex, PO18 oQZ **Tel:** 01243 811301

7-8 Beginner routing (Axminster) 7-8 Bowls & platters (Sittingbourne) 9 Taster day (Axminster) 10 Pen making (Sittingbourne) 17-18 Nutcracker wooden figures (Sittingbourne) 17-18 Woodcarving (Axminster) 21-22 Beginner woodturning (Axminster)

Axminster Tool Centre Unit 10 Weycroft Avenue Axminster Devon EX13 5PH Tel: 0800 975 1905

### October

1 Turning pepper mills (Sittingbourne) 6 Bandsaws (Axminster) 7-8 Bowls & platters (Axminster) 13-14 Beginner woodturning (Sittingbourne) 16 Intro to Leigh jigs (Axminster) 22-23 Nutcracker wooden figures (Axminster)

26-27 Beginner woodturning (Axminster)

Axminster Tool Centre Unit 10 Weycroft Avenue Axminster Devon EX13 5PH Tel: 0800 975 1905

2-4 Hand-cut dovetails 11-16 Double-bow Windsor chair 23-25 Steam-bent, inlaid tray

West Dean College West Dean, Nr Chichester West Sussex PO18 oQZ Tel: 01243 811301

### 17 & 24 French polishing

Peter Sefton Furniture School The Threshing Barn Welland Road, Upton upon Severn Worcestershire, WR8 oSN

# **Practical** Arts Festival

If you want to see how a rocking horse is made, then rock up to the 17th annual Festival of Practical Arts at Fangoss, East Yorkshire, 5-6 September. Jane Cook from The Rocking Horse Shop says: "It's amazing how many local traditional crafts people we have and it is a real joy to see the makers demonstrating their craft." Also expect to see pole lathe turning, making stained glass windows, spinning, ceramics, lace and corn dolly making. For more info go to www.facebook. com/Fangfest



Come and see how a rocking horse is made



### Structural Timber Awards shortlist

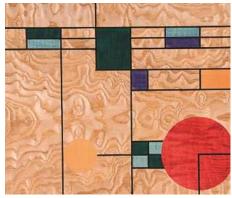
The inaugural Structural Timber Awards have attracted 160 entries across 14 categories, and the winners will be revealed from the final shortlist during UK Construction Week at the Birmingham NEC next month. Pictured is a detail from Wiehag's Crossrail station project at Canary Wharf

### Concertina table

Sam Anderson, who has a workshop in Leyburn, North Yorkshire, has recently completed this concertina card table for clients who live in a Frank Lloyd Wright house. The design is based very specifically on his work.

Sam has also launched a new range of furniture entitled 'Spectrum' that can be seen on his new website, www.samandersonfinefurniture.co.uk. Made in American walnut, the range, from stools to tables, is embellished with coloured veneer inlay which the customer can go on site to choose





### OFFCUTS

The European Woodworking Show at Cressing Temple Barns, Essex takes place 12-13 September with a diverse selection of stands including green woodworking crafts, cabinetmaking, woodcarving, musical instrument making, horse logging, chairmaking, pyrography, Japanese joinery techniques, scroll sawing and woodturning.

Advance tickets for The North of England Woodworking & Power Tool Show at the Great Yorkshire Showground near Harrogate from 20-22 November go on sale from 30 August. For more info go to www. skpromotions.co.uk or call 01474 536535

The Turners Company is offering one or more bursaries worth up to a combined value of £10,000 to help talented turners. There is no age limit. For more info go to www.turnersco.com

The Solid Wood Solutions conference at the Inmarsat Conference Centre, London on 16 September will host more than 250 delegates from around the world. For more info go to www.solidwoodsolutions.

# **Free Reader Ads**

### Machinery

ET JTS - 250S table saw with 250mm diameter blade, with JET universal mobile base, £230, buyer collects

**Reg Lloyd, Essex** (2) 01708 727388

Tormek Supergrind 2000 6 jigs, planer jig, excellent order, £390; Multico mortise K1, 4 chisels, clean, tidy, heavy, £225

Mr RF Ridgewell, Surrey (2) 01372 275062

DeWalt DW1251 radial arm saw, excellent condition, hardly used, includes legstand, buyer collects, £250

David Banks, Cheshire (1) 01606 551747

Scheppach Basato 3 bandsaw, 6in depth of cut, 13in width of cut, used lightly by hobby turner to cut mainly bowl blanks, as new condition, spare blades, £250 **Davey, North Oxfordshire** (2) 07707 242948

### Hand tools

Stanley No.4 smoothing plane, in box, £35; Stanley No.50 combination plane with blades, in box, £55; Record No.120 block plane, £18; Hobby thumb plane, £20; Stanley No.151 spokeshave, flat, £15; Stanley No.151 spokeshave, round, £15;

Mr D Haviland, Surrey (2) 0208 641 4238

Stanley No. 9 ½ block plane, excellent condition, £70; Cox adjustable bench plane, infill rosewood, brass clamp, £100

**Harold Cox** (2) 01283 563798

### Power tools

**Bosch GHO 31-82 240V power plane**, angle guide, spare blades, dust bag & case, £60; Fein Dustex 25l dust extractor, latest model, little used, £85 **Mr I Wilson, Kent (**01322 526897

### Miscellaneous

Victorian stripped pine shutters and architraves, sound condition, ex mansion, various sizes; some modern yew wood 3 x 3ft, offers invited **Mr R Barnes, Berkshire (?)** 01189 733764

**Mk II Jointmaster sawing jig** for cutting wood to differing angles and depths, with instructions, £5; set of plans for medium fully carved rocking horse by Anthony Dew, suitable for 3- to 8-year-old, £5; Arcoy Rabetter, old machine for cutting rebates using wobble washers, included, and electric drill, not included, £5 **Roy Holly, Hampshire** (2) 01256 415247

### Wanted

Scheppach 2 metre rail forTS2500ci sliding carriage **Peter Clements, Oxford** (?) 07803 025985

Switch unit for DeWalt DW1201 Radial Arm Saw, Weber Unimat WTN22-555 rated current 4A

David Cook, Worcestershire © 01562 66497

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# 3005

New products, tools and tests

Andv King. Technical Editor

**Absolute corkers!** 

If you thought that Stubai made only carving tools, then think again. Andy discovered these little beauties



▲ The 6mm chisel (right) has slightly thicker lands than the rest of the set

a rubberised washer below to give them more

durability for use with a hammer, what sets

them apart is their moulded cork main grips.

and comfort of cork and they don't slip in

These seem to be impregnated with a resin for

a firm and solid feel but still retain the warmth

A couple of flats on either side help keep

them from rolling off the bench. Replacement

Our apologies: in last month's issue we gave

a wrong blade speed for the ACM Jolly 45

bandsaw. The correct stat is 1500 metres



▲ The plastic striking cap has a rubber shock absorption washer below it



▲ The backs are flat enough to hone quickly straight from the box

hese handles are not only different from handles are offered but these seem durable any others I have seen, but so enough to last. comfortable! Although they have a Stubai has come up trumps with the blades plastic core and also a plastic striking cap with

too. There's a polished finish to both the bevel and back faces with no sign of any grinding marks visible. But the fineness of the lands will be of more interest to those users looking for finer jointing applications such as dovetailing and are on a par with the likes of Lie Nielsen, Veritas, Sorby and Iles, although the ¼in (6mm) one has a slightly thicker land compared to the wider ones. This is probably to bolster it up a little as all the blades are slender in their length.

### Conclusion

Working each blade to check the flatness and ease of initial preparation was a procedure

with excellent results; a few strokes on each is enough to get the edge ready for honing, and from there, the edge is perfect.

I mentioned the plastic striking cap, and although it holds up well, the finer style that these chisels have lends them more to bench tools for finer joinery and cabinetry rather than constant heavy hammer striking. Mallet work is where it's at if you need to strike them. Paring work is especially good, and testing them on end-grain oak, maple and ash gave great results.

### **Prices**

per minute.

the hand.

Our product prices reflect typical values as we go to press. We cannot guarantee thoroughly recommend that you shop around.

### How we rate...

Don't get your hopes up or your wallet out! Well, it works but really needs improvement Performs well, but you will find better Great performance and value for money \*\*\*\* So good, even Andy would get his wallet out!

## **Noodworking Verdict**

- + Fine lands; unique cork handle; replaceable
- Plastic striking cap may not hold up under repeated hammer work

### Rating \*\*\*

Price: £77.89 inc VAT for set of 6

Steel: Rockwell 62Rc Blade sizes: 4-34mm

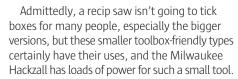
Web: www.johnsontools.co.uk

Kit & Tools

Loads of power

This modestly sized reciprocating saw could well earn its place in your

toolbox



A brushless motor lies at the heart of the saw so there's no maintenance as such required other than to keep the tool-change chuck free of dust and dirt.

With a 12V (10.8V depending on who tells you!) battery as the power source Milwaukee sees you gain incredible power from such small machines - seemingly immense for such a diminutive tool.

The Hackzall is a compact version of the reciprocating saw and works in exactly the



▲ A touch on the variable-speed trigger illuminates lights on the tool to show the battery status



▲ Batteries slide into the handle. 4Ah ones are available for longer run times

hile the Milwaukee Hackzall isn't a

hi-tec, accurate tool like the now

well-established multitools on the

### Milwaukee M12CHZ-0 Hackzall

same way, a blade with a short stroke length cutting on the back stroke and held against the work with the robust shoe.

The shoe on the Hackzall is fixed whereas some of the full-sized ones have a pivoting shoe for easier control, but the compact, singlehanded design of the tool helps keep it in place easily enough, and used within its design scope it's a very stable performer. That's partly due to a built-in counterbalance that keeps the vibration down, and I found that to be the case during my tests.

Making any cut with a recip is a combination of controlling the speed and rocking the blade by pivoting off the shoe as you work; more so on round pieces especially.

### Variable-speed trigger

There's a very good variable-speed trigger that makes initial starting of the cut as well as finer control easy to achieve, even when making some pretty chunky cuts while pruning some

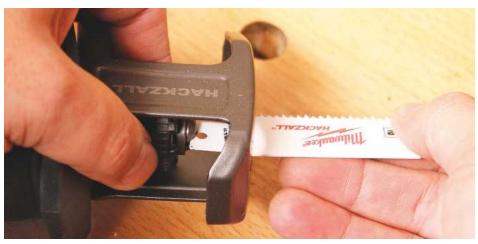


▲ The Quik-Lok collar makes blade swaps very, um, quick and easy

quite hefty branches off a tree in my garden; I lopped the main branches off, some of the bigger ones being up to 80mm diameter.

Being unable to clamp anything off to secure it, the Hackzall was still very easy to manipulate and control. In this situation, or when cutting very wet wood in other scenarios, there's always a likelihood of binding in the cut, and although there were a couple of times when it did so during testing, the saw has a built-in safety device that cuts the power to save it from overloading.

This great feature protects the tool from damage but it doesn't restrict the saw when



▲ Not high-end woodwork but this tree in my garden was quickly pruned back



▲ Fitted with a longer blade it's more than powerful enough to rip 75mm timber

it's used correctly. It's still a very powerful tool, and with a range of blades to cover all major materials in metal and wood derivatives there's plenty of categories and uses that the saw will come in handy for.

### **Ouil-Lok blade clamp**

There's no specific detail on the actual capacity the saw can cut, but it takes all standard recip saw blades, using the twist-locking Quik-Lok tool-free blade clamp.

Thin-walled pipes in plastic or soft metals for instance should be achievable in decent diameters, but solid or harder materials will be less so; however, the saw will soon let you know by cutting out if it struggles.

The Quik-Lok feature makes blade changeovers a doddle and the blades can be fitted to cut with downwards pressure, or inverted to cut by pulling upwards.

LEDs are a big feature on most powertools nowadays and the single LED that illuminates on the pull of the trigger is bright enough to gain good view even in darker spots.

A further bank of LEDs lights up briefly to show the stat of the battery so you can judge how much juice is in the tank before you start.

### Conclusion

As is the case with all the big guns now, there are options to buy with or without batteries, and if you own the batteries already, the outlay isn't massive. That said, with the lower voltage that the Hackzall operates on, even with the 2-battery option it's not outrageously priced. A great get-out-of-jail or jack-of-all-trades saw that will find a fair few uses when you need it.

# **loodworking Verdict**

+ Very powerful little saw; fast blade change; compact design

- Not suited for highly accurate work

### Rating \*\*\*

Typical price: £150.00 body only;

£250.00 with 2 x 4.0Ah batteries

Length: 280mm

Weight with battery: 1.6kg Battery: 12V Li-ion Speeds: 0-3000rpm Stroke length: 15.9mm Strokes per minute: 300 Web: www.milwaukeetool.eu

# Veritas detail palm planes

# Novel and useful

Instrument makers especially should welcome these planes from Veritas



▲ The handle can be removed to use as a finger plane



▲ By unscrewing the top part of the handle the length can be extended



▲ The planes are easy to control for finer detail

hese are very competitively priced alongside their traditional brass counterparts, but have a couple of nice tricks up their sleeves to tempt you. Four sole configurations are available: a standard flat sole, concave, convex and double convex, each with a sole area of around 39 x 17mm with a 10mm-wide iron.

This range covers the same parameters as the violin-style planes, but with the inclusion of an extended neck, culminating in a bulbous bubinga handle that can be wound in and out by about 12mm to suit finger length. It definitely gives more push through a cut, and I felt it had finer control than just gripping the body only.

It can also be used in more standard style by removing the whole of the handle stem and relying on finger and thumb grip alone to make the cuts.

Handle apart it's a simple construction much like the old-style Stanley block planes, so the



▲ You have to remove the retaining knob to hone the iron



▲ Here the convex plane is ideal for contouring the underside of a boomerang

iron is trapped against the bed by a small screw pushing the iron up against a retainer, in this case, grooves in the casting.

The small brass screw has to be removed to get the iron out for honing; no particular problem here, but remember that it's a left-hand thread.

The iron is A2 steel, ground to 30°. The thinness of the steel and the limited useable length warrant the need for retaining this as the cutting bevel rather than a secondary honing one to ensure the longest lifespan.

The mouth fit is tight, and there's minimal, if any, lateral movement with the way the conical end of the retaining screw centralises it. Bear that in mind when honing or you could find the irons sitting askew to the mouth.

The hard steel should give a long life between hones, especially as they are used for small concentrated work rather than taking huge swathes of stock away.

### Conclusion

Running chamfer edges and roundovers were nicely controllable, and the different base options proved handy when rolling out yet another boomerang for my dog, helping with the tighter radius work as well as hollowing the underside of the wings – maybe not what Veritas saw as its primary role, but they certainly make it easier!

These are cracking little planes, obviously specialist, but lovely to use and maybe not limited to instrument making; more intricate shaping jobs could be attempted with them, so apart from my boomerang making, they would work well alongside carving tools.

# The Woodworking Verdict

- + Adjustable shaft; easy to control; good for finer control on smaller work
- Plane screw has to be completely removed to hone the iron

### Rating ★★★★★

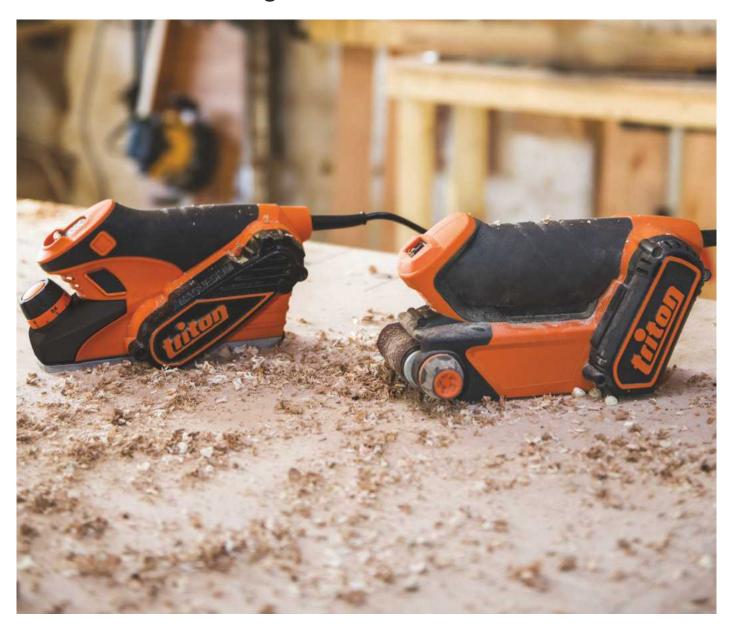
Typical price: £57.97 each

**Sole shapes:** convex, double convex, concave,

flat

**Sole size:** 39 x 17mm **Iron width:** 10mm **Handle:** bubinga

# **Engineered Precision**



### **Smooth Operators**

Designed with the perfect combination of power and balance with excellent grip for safe, one-handed operation, the Triton Compact Palm Planer **TCMPL** and Palm Belt Sander **TCMBS** deliver all the features of their conventional-sized cousins and more. A compact body shell is ideal for use in confined areas or for intricate projects. Fitted with comfortable over-moulded grips and dust extraction ports for safe clean working, they make light work of most common sanding and smoothing applications.





# Versatile site vac

Hooked up to small portable



The hose is certainly not going to break any



me so much back in GW146 but essentially

remains the same. The main difference is the





its portability lets you place it in a good

# DeWalt DCV582 cordless vacuum cleaner



▲ Two ports allow you to use the unit as a vacuum or a blower



■ The pleated washable filter traps particles as fine as 0.3 microns



► The vac is ideal for capturing localised dust when working in situ



▲ It proves equally handy on small general clean-up jobs



▲ Linked to power tools it does a good job of containing dust

### **Hook-ups**

However, it's not the most powerful of cleaners out there, but then again it's not a full-blown extractor designed to whisk away anything you can throw at it either, and it does a good job hooked up to small portable power tools.

It works well with routers, sanders and saws especially, if the hose length allows it, and I found it controlled the amount of waste generated very well, especially with sanding and sawing work where the dust is easier to

It also finds its mark as a handy little piece of kit for cleaning up small areas, making it ideal for domestic situations where some minor work maintenance or remedial work has been done - a bit of sawing, hand sanding, drilling and suchlike.

But of course, in all of this the bigger draw is the dual-power option; this is a tried and tested DeWalt machine that was originally built around the NiCd/NiMh battery platform but has now been upgraded to the Li-Ion battery type, and will take 14.4V and 18V batteries in all the various AmpHour configurations.

You can plug it directly into the mains if the battery side of things runs out of juice but it puts in a lot of work in battery mode; I've been using it over the last couple of weeks in a variety of woodworking tasks as well as giving the old van a thorough clean through and it's still going strong.

### Conclusion

I am a big fan of this little vac; while its sucking ability won't rival a proper extractor, for

versatility it is hard to beat and it's a solid and robust little unit that will easily stand the rough and tumble in the back of a van or being dragged around the workplace.

# odworking Verdict

- + Compact; battery or mains; fine filtration; wet or dry pick up
- Not as powerful as a dedicated extractor

### Rating ★★★★★

Typical price: £139.99 (no batteries)

Extraction rate: 15.9l/sec

Motor: 300W 7.5 Litre Tank Capacity

Weight 4.8kg

Web: www.dewalt.co.uk

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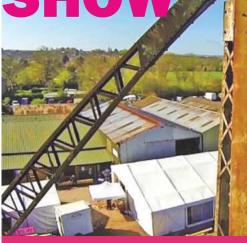
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# Solution Sol



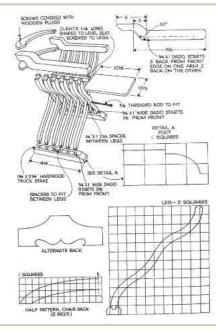
This being the summer, and the season of folding chairs, of scissoring legs and articulated splats, my thoughts turn once again to the Savonarola chair - or what's also known as the Dante chair, or X-chair among its many other incarnations. Whatever you call it, though, it looks awfully like an articulated version of the curule, which was a literal seat of power in ancient Rome, and has been in circulation ever since. Either that, or it's just a more dignified predecessor of the folding camp stool. Anyway, the Savonarola is handsome in an austere sort of way...



Dave Roberts, Consultant Editor

# Caesar adsum iam forte

nd I'd rather like to make one. In fact, if I'd had my wits about me on some recent travels, you'd be looking at a photograph of one now, and I'd have some references from which to work. There was one in my room while I was in Italy, a splendid thing that I didn't dare to sit on, not because of its antiquity but because it was completely worm-eaten. The gist of its construction, however, is captured in



A glorified camp stool, or maybe a 'campaign chair' if you want to be all Napoleonic about it. The curule of ancient Rome has given rise to many derivatives and variations, and remains an attractive and interesting project. Well, I think so...



From kitchen to cabinetmaking: squid ink is an effective natural dye

the drawing below, showing a project from Jay Hedden's *Making Mediterranean Furniture*, now out of print but still obtainable secondhand, except that if it's to fold, this design would require a removable back; the one that I saw had a curved back that slotted into the arms using a bridle joint. And I think that perhaps that's part of the Savonarola's enduring popularity, that like a Windsor or an Adirondack, say, there's scope to vary and embellish the chair – take a look and you'll find all manner of carved and inlaid examples – but nonetheless it remains a strong, attractive, and immediately recognisable design.

I imagine, however, that the trick to making a successful Savonarola chair lies in selecting a timber from which to make legs of such relatively slender and – what's the word? –



Custom-made dowels courtesy of a handheld drill and an ingenious jig that...

Photograph by Richard Warmisham



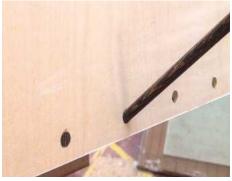
Substantial sliding dovetails... Photograph by Richard Warmisham

sinusoidal form without introducing fatal weaknesses. There is strength in numbers, of course, and the Savonarola has plenty of legs tied into the feet, but I think some experimentation is called for to find a suitable solution.

### Sauid's in

In classical terms, it is only a short step from Rome to Athens – at least, it is in Waterstones' bookshops – so from *curules* we can move easily on to Aristotle who, in his History of Animals, observed that, "when the Sepia [a type of cuttlefish] is frightened and in terror, it produces this blackness and muddiness in the water." While the cuttlefish's ink tends to be brown – hence the name of the pigment derived from it – the ink of its near relative the squid is blue-black, and it's this that Richard Warmisham, our Centrefold subject (p46) used to stain the oak stretchers in his chest of drawers. "It is extremely black," Richard explained, "and when watered down works really well: it can be applied by brush or raq and gives a very even finish."

Though there are alternatives – Vegetable Black, for example, though it's a pigment rather than a dye – squid ink seems to be in voque at the moment – or maybe it always was and I didn't notice – and is being used as a finish of choice in all sorts of woodworking projects, from the elegantly rustic tables and



...was paired with another jig to drill the oblique holes in the drawer ends

Photograph by Richard Warmisham



...made using jigs that are equally substantial... Photograph by Richard Warmisham



...but nonetheless simple Photograph by Richard Warmisham



Last stand: old pallets used for wooden shuttering. Surbiton's Tom Good would have been proud

stools in the Squid Ink collection of Cornish furniture-maker Felix McCormack (http:// felixmccormack.co.uk), to the slightly bonkers box pipes – as in, 'put it in your pipe and smoke it' pipes – of Curt Buthman. Just Google '215839187 etsy' and you'll see what I mean.

### DIY dowelling & dovetails

Squid ink wasn't the only exotic detail in Richard's chest of drawers; you'll have noticed: the dowels in the drawers are custom-made from wenge using a neat process involving a kind of router-powered pencil sharpener which Richard describes as follows:

"The wenge dowels were machined using a iig that consisted of a router mounted underneath an MDF board through which the cutter protruded: a block of hardwood was then fitted over the top of the cutter with an entry hole in the side large enough for the octagonal-shaped wenge blanks to enter. The exit hole, meanwhile, was the same size as the finished dowel, whose radius is determined by the distance between the centre of the blank and the tip of the cutter. Using a handheld drill, the dowels were shaped by feeding the blanks through the entry hole, over the spinning router cutter; the finished dowel then emerged out of the exit hole. A second jig was then made to drill the holes at 45° to the face of the drawer sides so that, when trimmed. they created an oval."

I've also included Richard's shots of the jigs he used to rout the substantial sliding dovetails in his chest of drawers' Corian-covered legs and their stretchers because I think they exemplify something that seems to be very much a part of the Robinson House Studio approach to furniture-making: a readiness to make tools. What struck me – and this goes for the dowel-making device too – was the contrast between the simplicity of the jigs and the sophistication of the Pop/Deco piece; the large return that's to be had from investing a little time in making your own solutions.

### Return of the pallets (pt.III)

Talking of jigs, and to end where we began out in the garden – I'm returning to the contentious subject of pallet wood and its other uses. Last time (GW285), I mentioned discovering that the regularised dimensions of its timber, which includes hardwoods if you're salvaging US-made pallets, make quick and easy work of building box-sections that can be used in the workshop as part of load-carrying frames and large jigs, etc. In the spirit of recycling, then, I thought I'd mention this shuttering, whose sections were made in a matter of 40 minutes or so from broken pallets, and was used to create a temporary structure to retain the earth of the flower bed while this ragstone wall was built – a case not so much of going green as growing greenery.



n occasion standard tools aren't quite right for restoration and some lateral thinking is required. When I decided to change career and become an antique furniture restorer I enrolled on a cabinetmaking course to improve my basic skills. I was blessed with an inspirational tutor whose best piece of advice was never to be afraid to modify a tool if it is the only way to do the job properly.

Since then I've extended the scope of his wisdom to include techniques and materials as well. A tedious list wouldn't be very instructive but generally it has been a case of the simpler the better. Logic plays a large part and many improvisations have just involved a bit of analysis and common sense.

There's nothing magic about the process – the Letters & Makers pages abound with good ideas such as the rounded corners of Steve

Lewis' stripping knife-cum-scraper in *GW*207:98. Although not specifically for restoration the idea highlighted an important underlying principle for restorers, which is the avoidance of further damage.

### Don't make it worse

This point can be illustrated with a couple more examples of rounding corners. The first is a stripping knife to remove old finishes with a proprietary varnish stripper. For the same reason the square section of the whole blade needs to be 'softened' by rounding and smoothing. The technique needs attention too; rather than using a firm scraping action the blade is best held at a very low angle and the old dissolving finish pushed off in one continuous movement with very little downward pressure.

The second example is a cranked bevel-edge chisel to work flush when repairing blemishes or filling holes on polished surfaces. The technique of using chisels here is against most people's instinct but provided the corners are rounded, the blade is very sharp and all burr removed, there is less risk to the surrounding area than using the oft-recommended fine abrasive

Slipping metal in general is a problem. When cleaning gunge from mouldings, forget screwdrivers or chisels and go for the pointed softwood stick. If you taper rather than point the other end, it makes a good tool for easing off those spots of white paint that get everywhere, as even the fingernail can bruise the surface. The dismantling block is also

designed to prevent bruising – you may remember it from *GW*181:28 for tapping joints apart. It is simply a block of beech with the end-grain padded by a bit of cork and several layers of newspaper secured with masking tape.

### Using a cabinet scraper

Many restorers are keen on the cabinet scraper, but beware! It is designed to remove wood and, given the fragile nature of patina, can be disastrous in restoration. There are, however, times when removing an old finish by scraping is a realistic option. For instance, a quick coat of shellac or other varnish on a piece of oiled or waxed furniture never adheres properly and flakes easily.

Removal by solvent can risk damaging the original finish whereas gentle scraping – or pushing – will leave the original surface untouched. In this case, forget metal and go for plastic. I once stripped an entire 18th-century long-case clock with old plastic credit cards – and they come with ready-rounded corners.

Cabinet scrapers can, however, be real stars if adapted. In the absence of a router or moulding planes, they can be converted into scratch stocks to create mouldings, simple and complex. You'll need a profile gauge, hacksaw and a selection of files to shape the blade, and it might take you an hour to get it right, but it will then do an accurate job in a few minutes.

Adaptation doesn't have to be so time-consuming, though. The manufacturer showed me how to bend an ½in gouge at the handle in 30 seconds to allow me to put the lip on long runs of new cock-beading in situ. The blade needed to run flush along the surface but the force involved didn't warrant making an expensive full crank. He held the gouge – blade down – in a vice up to the handle and leant gently on it until he got the angle I needed. About 20° is enough to allow your knuckles and the handle to clear the work.



Tip

Modified or improvised tools are still proper tools and all the same principles apply. If they lack balance or don't sit comfortably in the hand they won't do their specific task properly

### **Converting screwdrivers**

My first solo foray into tool modification was to convert a screwdriver into a mini-skewed chisel to fit a thick veneer insert. My smallest standard chisel wouldn't clean right into the apex of a 30° angle and a knife or scalpel blade weren't sufficiently rigid. It took five minutes.

Screwdrivers can also be modified to make, well, different screwdrivers! The pommels of some 18th-century drawer handles – and the blades of many handsaws well into the 20th

century – were secured with round slotted nuts, which when tightened cause the thread to protrude, making a normal screwdriver useless. The answer is to cut and file a square section from the centre of a broad screwdriver to form a 'key' with two teeth to fit into the slots either side of the bolt and turn the nut evenly. This took 10 minutes.

Where materials are concerned, furniture cleaners are a good example. You can alter the proportions of ingredients in homemade versions to suit any particular job rather than settle for a one-size-fits-all proprietary brand. My basic recipe is a mixture of pure turpentine, raw linseed oil, meths and vinegar in equal proportions. Your own beaumontage and polishers' putty for hole filling and the same earth pigments in beeswax for tinted wax are other examples.

### **Beyond needs-must**

I have known some restorers who've become more interested in adaptation than restoration itself, which is fine. It is certainly very satisfying and you can get quite sophisticated – a handle for your cabinet scraper scratch stock for example. A more comfortable veneer hammer, perhaps?

But my favourite still remains the most rudimentary – a needle in a cork (as a handle). It's ideal for replicating the grain across areas of otherwise characterless filler. Without that extra texture a filled hole remains obtrusive, but once it is pricked or scratched with a controlled fine point and given a wipe of black wax the disguise is complete.

A recent radical clear-out of the workshop threw up other indispensable 'tools' including feathers, an individual cat's whisker taped to pieces of dowel and an old lawnmower handle. I'll leave it up to you to work out their



# **Excercise in finesse**

### As **Jeff Gorman's** chair nears completion he starts looking at the fine details

aving decided to improve on my earlier chair (see information box), my plan was to make its successor look a bit more robust by adjusting the proportions of its various parts. I also intended to try out an idea for a trapping plane that, unlike most 'traps', could plane concave curves and to use this in making the slender back spindles and the front leg units. Additionally. I wanted the arms to have a tactile profile and have a shape that gestures a comfortable welcome.

Unlike many post & rail chairs, the legs of this design-as-you-go chair were made with rotary planes and a 'trapping plane'. A turned chair would have been given a decorative finial, but as this was impracticable I gouged a modest enhancement (Pic.2).

This time I'm trying something a bit bolder (Pic.3) for which, lacking a deeper gouge, I sought out a suitable round file. The 45° chamfer was really formed to soften the edge and to give me a line to tell me where to stop the upward-running cuts, but I was delighted by the pattern that evolved.

### Front leg units

Since it was important that the top's perimeter should finish neither too proud of the arm nor be sunken below it, I marked its chamfer directly from the arm's surface (Pic.4). While using the 'bevel up' (block) plane for the small job of bringing the inclined top (Pic.4) parallel to the arm's surface, I was reminded of a not-generally-appreciated feature of such planes. Pic.5 compares the mouth apertures of a block plane (on the left) and a smoothing



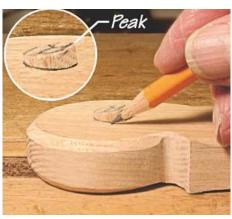
▲ Pic. 2 The finial of Jeff's first chair was finished with aouae cuts



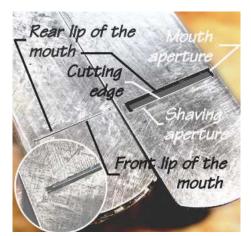
▲ Pic. 1 A spare piece of carpet helped to indicate what the chair would look like



▲ Pic. 3 This time he used a round file to try a bolder decoration



▲ Pic. 4 Next up he carefully marked the chamfer line for the dimple



▲ Pic. 5 The mouth aperture of a block plane (left) differs a lot from that of a smoothing plane



▲ Pic. 6 You can use a V-notched board to locate the arm support and quide the file



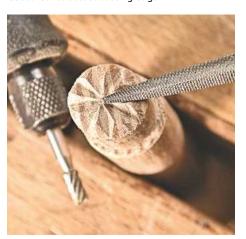
▲ Pic. 7 From above, Jeff found that the cutter obscured its actual cutting edge



▲ Pic. 8 He had to lower his viewpoint to see exactly where he was cutting



▲ Pic. 9 Using two hands enabled him to firmly control such a small tool



▲ Pic. 10 To complete the tool cuts, Jeff used the corners of a square file

smoother's cutting edge and the rear lip of its mouth, and the virtual absence of such a space in the block plane's sole. If I had used the larger plane, it would have had a somewhat bumpy journey as the 'peak' enters the void and then hits the very blunt rear lip of the mouth. Perhaps in this case, this feature was of somewhat notional benefit, but it can prevent unwanted damage to the arrises of small delicate jobs.

### Useful workshop aid

The file that chamfered the tip of the arm support was guided by a pencil line marked at 45° to the edge of the board. This vice-held board was made from a slab of 240 x 120 x 15mm-thick European beech, fitted on its underside with a 100 x 35 x 20mm batten. I carefully filed until I removed most of the line, eventually leaving only the merest trace.



While working, and when putting your files away, clean them with a file cleaning card from Axminster, www.axminster.co.uk When filing, reduce vibration by keeping the work as low down in the vice as you can.



▲ Pic. 11 The results are interesting features for inquisitive fingers to explore

### The dimple

When practising on an abandoned leg – guess why it was abandoned! - I discovered that the alternation in the hardness of the growth rings made it very difficult to accurately start and guide a square file. Knowing that on the trimmed surface there would be no wood to spare and slips and miss-hits would be disastrous, I used a 'high speed cutter' in my Dremel tool to start V-shaped grooves that could be finished with the file (Pics.7 & 8). Good support from the bench surface and a twohanded grip (Pic.9) were needed to control the

kickback as the tool touched the job.

Viewed from above, the tool obscured the actual location of its contact point (Pic.7). To work accurately on this small area, I had to lower my viewpoint (Pic.8). Fearing that the dust would be directed eye-wards I took care to use the safety specs.

Well, bar the weaving, the fun bits are almost done, but some parts have not taken a perfect finish straight from the tool. This means that I have to do some careful sanding before I apply a finish, think about the cramping and then glue-up.

### Jargon busting

Finial: An ornamental termination to the top of a furniture item

### **Information**

If you'd like to see the previous chair. please look at: http://www.amgron.clara. net/projects/Chairs/TomSuttonChair.htm

Metal rounders and traps: http://www. ashemcrafts.com/

Using rounders and traps - Jack Hill's Country Chair Making, David & Charles, 1993, ISBN 071538767



# Tool chest, tools and a course with David Savage

# Worth over £3000

Could you win this fantastic set of prizes, which includes a Chris Schwartz chest, a tool kit and a week's Basics Course at Rowden? Read this message from David Savage...





Learning best practice at Rowden

Why should YOU win this chest of tools? First of all, who are you? Well, you are relatively young, under 25, but you could be much younger. You could be a girl or a boy. You may not have done much actual woodwork. But you will be absolutely passionate about making: making things, anything – model aeroplanes, go carts, boats and model boats, toys, dolls' houses, battleships in bottles. I care not what.

Maybe you are reading this and know a young person that could fit that bill. Then YOU have to help them apply. I am not particularly looking for a young woodworker, but I am looking for a young maker. You will not be happy just with PlayStation and digital stuff like your mates, you want to actually MAKE STUFF. You may not have the tools or the technique but if you can show me a pile of photos of things you – not your dad – have made, that could do the trick.

You have to write 250 words about WHY you do this daft stuff. Sorry about that. If you are not good at writing get someone close to help put it onto paper. You tell them what to write. You tell them why, what it is that makes you do this. I have trained three of this county's very best makers and none of them liked writing either.

Are you a DT teacher in school and know a young person who would qualify, are you a granddad with a granddaughter who drives you silly when she comes to 'help you' in the shed?

Young people are no longer readily being enabled to take up woodwork as a natural medium of creative expression. I want to put one decent set of tools in the hands of one good young person even if it all ends up on eBay in six months' time...

### **HOW TO ENTER**

Entrants must be under 25 years by the competition closure date of 18 November 2015. All you have to do is write up to 250 words setting out why you would benefit from the prize, including a note of any prior experience. David is looking for someone with a passion for making. You or someone applying on your behalf will need to show that passion with photos and drawings. The aim is to put this box of tools in the hands of someone who needs them and will use them with care and pride. The winner will be chosen jointly by David Savage and by the Editor of Good Woodworking.

### **Tool chest competition GW0815**

Good Woodworking MyTimeMedia Ltd PO Box 269 Haslingden Rossendale Lancashire BB4 0DJ

The person judged most to benefit from the prize will receive the tool chest, toolbox and course

### The closing date for entries is 18 November 2015

Only one entry per person; multiple entries will be discarded. Employees of MyTimeMedia Ltd and David Savage are not eligible to enter this competition.

Please	attach	the	coupon	below to	your entry	:

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Please ensure your personal details are correct as they will be used to contact you if you win. By supplying your email/address/telephone number, you agree to receive communications from MyTimeMedia Ltd and other carefully selected third parties.

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### Woodwork foundations



# In a flap

### This month Michael Huntley advances his course by showing you how he makes rule joints

e have covered in this series, albeit far too briefly, post & rail construction, carcase construction and drawer construction. There are a few other little subtleties that need a mention in a foundation course, and the rule joint is one. This joint is important because you need it to make neat flaps for tables and fitted furniture. It is known as a rule joint because of the similarity to an old-fashioned folding rule (**Pic.1**). It is also the joint that is used on drop-flap tables. The concept is that the flap or, in the case of a rule,

the arm, must be firmly fixed but also fold up to butt tightly against the main section (Pics.2 & 3).

In order to achieve this the hinge (Pic.4), has long and short flaps. The pivot point is below the rebate on the fixed piece. Considered geometrically, the pivot is at the centre of the circle formed as the hollow moulding on the flap slides over the quarter-round moulding on the fixed piece. As usual, if in doubt – draw it out! (Fig.1).

In the old days the 'hollows and rounds' were formed by planes. Nowadays a router with a special ovolo cutter is used (Pic.5). It is best to

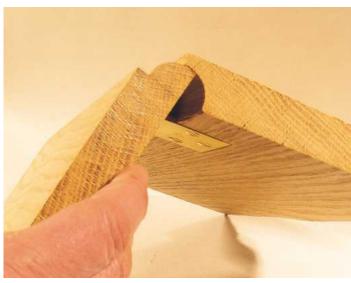
have a practice with the cutter before using it on your project. The first time that I used this joint was on an oval table many, many years ago. I forgot that the hinged leaf would bind against the under-frame unless the carcase was pulled back by half the thickness of the leaf (Pic.6). I should have either drawn it both open and closed or made a practice mock-up first!

### Timber preparation

Prepare the timber and set it up on edge in the vice (Pic.7), or clamp it overhanging a workbench (Pic.8). It may look in the



▲ Pic.1 A rule joint where the hinge position makes the two arms butt together with no gap



▲ Pic.2 The joint seen edge on. Note the position of the long flap of the hinge under the hollow

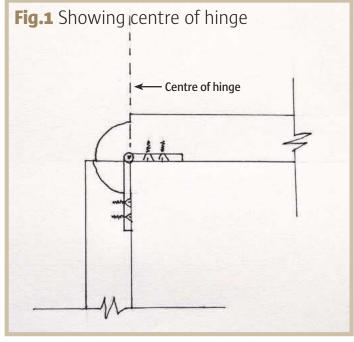


▲ Pic.3 The underside of the closed joint showing the hinge and screw positions





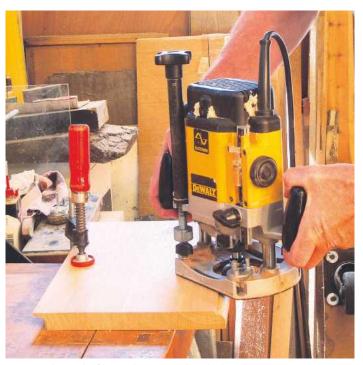
▲ Pic.6 Set the underframe back to avoid this happening!



### Woodwork foundations



▲ Pic.7 You can use a vice to hold the leaf if it is small



▲ Pic.8 A larger leaf has to be cramped to the bench



▲ Pic.9 Check on pieces of scrap that all fits well



▲ Pic.10 Marking the recess

photograph as though my bit of test scrap is insecure, being held only with one cramp, but I can assure you it was firmly held. A full-size leaf would have enough overhang to have several cramps on it!

If at all possible leave the timber over long so that you have a bit of waste at the start and finish of the cut to allow you to glide on and glide off. Remember that if you are making an oval table the routing will compromise the trueness of the ellipse. Do the routing first and then cut the ellipse.

### Rebate & housings

Adjust the cutter in the router so that you achieve a decent rebate. You will see that I am using a router with a fine adjuster – this makes life much easier! Remember that the rebate also defines the thickness of the hollow's top edge.

Too thin a top edge will break away. Perform the cut and then remove the cramps and check that everything fits together well (Pic.9).

The next thing to do is to trim the boards to width, turn them over and cut out the housings for the hinges. You need to allow just a fraction of clearance between the round and the hollow; if you need a shim a couple of sheets of paper inserted in the gap will do.

Remember that the pivot centre must be directly below the rebate edge (Fig.1). This is where a Vernier calliper is helpful – indeed one is useful for all fitting of metalware to furniture. It is difficult to measure the offset because of the round, so drop a line from the rebate down to the underside and then gauge the line from the front of the round. In Pic.10 I have pencilled in the line to make it easier to see. Line up the centre of the knuckle with

your gauged line and mark around it for the hinge recess. Then mark the channel for the knuckle and chop it. This will allow you to lay the hinge in place and check the settings.

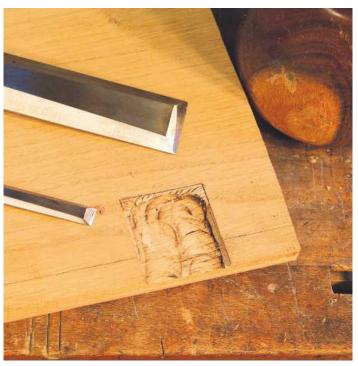
The hinge recess can be chopped or routed. Routing gives a more accurate depth but the edges will need to cleaned up by hand anyway (Pic.12). A handy tip for setting the depth of the cutter is shown in **Pic.11**, but make sure you measure the leaf at its thinnest point, not where the screw hole burr is!

When cleaning up (Pic.12), put in a series of 'relieving' cuts to stop the timber splitting. It may take a little longer but until you are used to the characteristics of each timber it is better to take longer getting a clean edge than to hurry and have a broken edge. Woodwork is often judged on the quality of the hinge and lock fitting.

# Rule joint !



▲ Pic.11 You can set the depth using the hinge itself



▲ Pic.12 Cleaning up the edges of the recess – "feather" the last bits to keep the edges clean



▲ Pic.13 Chopping the knuckle recess, again use the feathering technique



▲ Pic.14 The fitting ready for screws. Note the brush and glasses. It is simple to have a brush handy when chopping accurate recesses in order to remove tiny reluctant chips and Michael finds that wearing a pair of close-up glasses helps avoid costly mis-cutting!

### Knuckle trench

Once the leaf recess is finished the trench for the knuckle can be chopped (**Pic.13**). A series of 'feathering' cuts does the job faster than it would take to change the cutter and set up the router.

Finally, clearance holes are drilled and the screws fitted. It sounds obvious but check that the screws won't come through the top! As it is likely that you will be screwing into

hardwood make sure that the clearance holes are wide enough and drive a similar-sized steel screw first, in order to cut the thread (Pic.14), then insert the brass screws because the last thing you want is a brass screw breaking off in the hole – if that does happen, at least brass is soft, and you can punch a centre and then gently drill out the broken shank by increasing the drill diameter 0.5mm at a time. One final

### Suppliers & info

### Hinges:

www.j-shiner.co.uk/products.asp?recnumber=5156

### Trend Rule joint cutter:

www.trend-uk.com/en/ZA/trend/content/content\_detail.php?record\_ type=Knowledge&id=14736

### Images of mouldings to confirm cutter profiles:

www.theclassicalorders.com/moulding.html

point about metal fittings, because this is partially an exercise in accurate fitting that will serve you well for all your projects - slotted screws with the slots lined up look better than cross-head screws with random alignments. Given two identical boxes side by side, one with slots and one with cross-head, the slotted one will sell first.

Fit the rest of the hinges and the other leaf in the same way, paying particular attention to accuracy. Remember when polishing to remove the hinges and apply polish to all the exposed edges and to let it dry thoroughly before re-assembly.

### **NEXT MONTH**

# Tov story

### Bernard Greatrix encouraged his granddaughter to kick up a din with these rattles

made these fun turning projects for my granddaughter when she was just crawling. I thought she would enjoy having toys that she could chase around the floor and which would also make a noise. The rattle shown in the main picture was developed from one that I'd seen somewhere several years ago, which had three dowel 'hammer' bars mounted on three dowel columns, but no beads. I decided that four columns would enable a greater range of movement of the hammer bars and would therefore make more noise, hopefully pleasing the young one even more. Spacing the bars along the columns evenly would prevent them interfering with each other, hence the beads.

The whole project makes copious use of an

Ian Wilkie drive centre with compression mandrels made to fit. and a screw chuck. I have never felt happy holding material on a spinning face plate with glue or double-sided

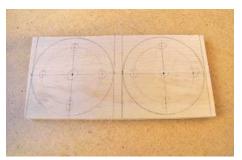
tape and, besides, a filled central hole and adjacent plugs would not appear out of place as decoration. I was also loath to use paint as a decoration as it could make the toy unsafe for my granddaughter to suck the grain of the wood, as was her wont.

I have used some short apple planks which came from a garden tree cut down in 1998 and have been air drying under my bench, in addition to cut-offs of mahogany and beech saved over the years. These are

all timbers which are in solid form, at least. and are generally considered to be non-toxic a prime consideration.



The first thing I did was prepare the timber for the rattle's 'wheels' 10 to 12mm (25/4 to 15/32in)



▲ Pic.1 To begin with Bernard prepared the timber for the wheels and marked out the main holes



▲ Pic.2 He drilled out the centres holes and mounted the wheels onto a compress mandrill...



▲ Pic.3 ...pinching them between the drive centre and a tailstock rotating centre



Pic.4 Turn the wheels round; chamfer and polish the edges before drilling four holes in each piece



Pic.5 On the outside of each wheel pencil a lazy S-shape and drill a series of holes of varying diameters



Pic.6 Pinch two pieces of mahogany between the platens and turn down by a couple of millimetres

## Rattles



▲ Pic.7 Continue down the sizes, reducing the platens as required until you have a full set of plugs



▲ Pic.8 Glue the columns into one of the wheels only, dry-fitting the other to apply pressure



▲ Pic.9 From some 12mm-thick mahogany, cut 20 squares each with 20mm sides



▲ Pic.10 Mark the centre of the block for centre popping; Bernard uses a carpenter's finger gauge



▲ Pic.11 A simple jig consisting of two strips clamped to the drill platen will enable you to get consistent beads



▲ Pic.12 Clean out the burrs from each side of the blocks and mount on a compression



▲ Pic.13 ...Bernard's will take a set of five squares, as shown

Safety notes

You do need to be careful about using paints and associated materials where children especially teething ones! – are concerned. Not all suppliers provide as much information as one would like, but there some who do offer child-safe certification, including Winsor & Newton, which supplies the Galeria range of artists' acrylic paints (www.winsornewton.com), and Liberon, which supplies concentrated water-soluble dyes.

Other suppliers that we contacted could assure us that their products were safe, but have not opted for certification because of the alleged costs involved. Bernard wanted to use a water-based gloss varnish finish on his rattle, but was unable to find a varnish manufacturer who could supply certification.

thick. Then I marked out and centre-popped the locations of the main holes (Pic.1).

To drill out the centre holes of the wheels, mount them together on a compression mandrill, pinching between the drive centre and a tailstock rotating centre (Pics.2 & 3). After the drilling is complete, chamfer and polish the edges to 240-grit. Drill four holes in each piece 8mm (5/6in) diameter by half the thickness of the wheels (Pic.4).

On the outside of each wheel pencil a lazy S-shape and drill a series of holes of various diameters between 5 and 25mm (13/4 x 63/4 in) to a depth of about 2 to 3mm (3/2 in) (Pic.5). At this stage you are free to ad lib as much as you like.

Next, mount a scrap block on a screw chuck and face it off flat. Drill a shallow hole (say, 8mm) in a second block and pinch up using the rotating centre in the tailstock. Turn it round and reduce the diameter to about 25mm in the centre.

Pinch two pieces of mahogany, about 27 to 28mm x 4mm thick (1 x ⅓₂in) between these platens and turn down to 25mm (Pic.6), the size of the largest drill used in **Pic.5**. Continue down the sizes, reducing the platens as

required until a full set of plugs has been made (Pic.7). On the way, as the centre hole is 12mm, it needs to have a plug which is full length – i.e. 13mm long, but made in exactly the same way.

Then you need to glue all the plugs in place. I mounted them generally with the grain at right angles to the main grain – there is no specific reason for this, it just seemed like a good idea at the time. Put the wheels aside to dry at least overnight. When dry, plane off the excess material from all the plugs and sand down to 240 grit. Varnish the inside only at this stage; two coats should do, flatting off the nibs after each has dried well with 350-grit paper.

#### For the columns...

...I turned four off-beech dowels to 8mm diameter by 85mm (3½in) long and sanded them down to 240 grit. Glue these into one of the wheels only at this stage using the other wheel, dry-fitted, to apply pressure and ensure good location (Pic.8).

When dry rub a candle up and down the shafts prior to taking them apart for final assembly.

#### The beads

From some 12mm-thick mahogany, cut 20 squares each with 20mm sides – allow a bit for misalignment and other errors, say 2 to 3mm (Pic.9). Mark the centre of the block and centre-pop – I simply used a carpenter's finger gauge to mark the blocks, which is near enough for this exercise (Pic.10).

A simple jig consisting of two strips clamped to the drill platen will enable all the other blocks to be drilled the same, or near enough (Pic.11). Use an 8.5mm drill which will give adequate clearance on the 8mm shafts.

Clean out the burrs from each side of the blocks (Pic.12) and mount on a compression mandrel - mine will take a set of five (Pic.13). Turn down to 20mm (25/32in) then mount individually on an 8.5mm jamb chuck to clean up the faces, chamfer the edges and cut any pattern on the edges. Mine gives a set of beads which count up in five bit binary. I know, I know – this is for a child under one-year old, but who said I shouldn't find some enjoyment out of making it? Mount the beads on a length of 6mm (15%4in) dowel and varnish, again using two coats flatted with 350 grit.

## Turning project



▲ Pic.14 Final assembly involves simply stacking everything together and gluing on the second wheel

**Compression mandrel** 

It might be worth explaining what I mean by a compression mandrel. Turn a spindle, between which will later be the shaft size you require – for example, 8mm for the beads or 19mm for the wheels.

Drill a hole through two blocks of suitable size and glue onto the end of the spindle. This becomes the shoulder up to which the beads and wheels will press.

Load the components to be turned. Slide the other block onto the open end of the shaft and locate the cone of a tailstock rotating centre in the exposed hole. Pressure from the tailstock will pinch the components to be turned.

If you have access to a friendly metalworker you could alternatively use a length of threaded bar with nuts and washers, but then you need to use a chuck to hold the bar and a centre hole in the end of the shaft to locate the tailstock.

#### The hammer bars

I decided that the hammer bars should be a contrasting colour to the beads. I used beech for these as I had a small amount of 10mm-thick off-cuts, so these were cut into 70mm (2¾in) lengths, 20mm wide.

An 8.5mm hole was drilled in the end of each piece and the burr removed as before. Then the end was pared to an approximate semicircle. The curve was completed by sanding with a swinging motion.

The bars will be trimmed to length after

trial fitting. Varnish the bars using the same method as before.

Final assembly involves simply stacking the beads and bars as shown in **Pic.14** so that the bars are free to swing past the opposite column of beads. Trim the hammer bars if necessary. Glue on the other wheel (use a minimum of glue so that it does not dribble into the beads – this would negate any free movement) and leave overnight. Finally, polish the outer sides of the wheel to 240-grit and varnish and de-nib as before.

## Copy the greats

I also had a go at a child's rattle originally turned by turner Dave Roberts many years ago in Good Woodworking...

Back in May 1999 Dave Roberts showed a design for a baby's rattle under the title of 20 minute turn. Having only recently acquired a new lathe – to replace my 'cobbled together' washing machine motor, tool handle turning device – I was keen to try out new ideas and to impress my friends.

No matter how I tried I could never get anywhere near 20 minutes and to this day it takes me some 80 to 90 minutes despite having now made a dozen or more. I could never get the rattle head to stay on the jamb chuck properly either, as the slightest wobble became a wild oscillation followed by disaster, so I turned back to the spindleturning methods as follows.

Take a single piece of well-seasoned beech about 250mm (10in) long and mark the centre on each end. Stab a centre hole, mount between centres and turn round. Continue the centre lines longitudinally down the block using the tool rest as a guide. Square off the end face as this will then





enable the main hole to be drilled correctly.

Mark off the main distances down the billet, identifying waste and hole positions and including a 10mm piece where the billet will be separated.

Turn a spigot 22mm diameter, checking with a Vernier gauge for accuracy, then part off the head part. With the head in a V-block drill two sets of holes around the circumference, then bore a 22mm (5%4in) hole down the centre of the block, clearing the bottom hole by about 5mm. You then need to clean out any burrs with 240-grit abrasive.



Next, pop in a small brass bell and glue the spigot into the head, locating the grain as closely as possible. Take care not to get glue in the bell chamber, as it will be impossible to remove it.

Mount the workpiece back into the lathe and bring up the tailstock to act as a clamp, and leave to dry.

Turn the head as required and finish down to 320-grit. Sponge the surface to raise the grain and when dry polish again with fine abrasive paper.

Part off each end of the rattle carefully and polish the ends to remove the parting tool markings.

Run a countersink bit by hand and round each hole and decorate with a piece of pretty ribbon.

Overall I tried to stay close to Dave's wonderful design with minor variations in the hole arrangements, but it's tricky emulating his fine work – especially in 20 minutes! I would recommend you keep your eyes on the work and not the stopwatch, just taking as long as you need. The point is to have fun with it, not to agonise over not being super fast.





# Forsa 3.0 Series Professional Panel Sizing Saw Designed in Germany - Manufactured in Germany - Proven in Germany

A new panel sizing saw specifically designed for the smaller workshop! The new Scheppach Forsa 3.0 offers 1.6m panel cutting capacity with the advantage of a full 87mm depth of cut for solid timbers. Like all Scheppach Precisa and Forsa sawbenches the Forsa 3.0 is bristling with German technology from head to toe. Designed specifically for those who where floor space and budget are foremost in their considerations. Micro scale with settings to within 1/10th mm on the rip fence included. Available in either single or three phase electrics.



Also available. Precisa Series of Classic circular sawbenches with optional pre scoring function.

**Professional Series** 

\* All prices below include Pro STC & TWE. Substantial price reductions available if standard solo outrigger table required. All prices ex works. Carriage extra. Forsa 4.0 / 4.1 - tail lift required. Forsa 8.0 / 9.0 - fork lift truck required. P3 models inc extra support table & clamp

Model	Product Group Series	Specification Includes (as per quoted price)	Mc HP / Scorer / Volts	Depth of cut & length of stroke	Price Exc VAT - Plus Carriage	Price Inc VAT - Plus Carriage
Forsa 3.0	Professional	Inc Professional STC + TWE	5.2 / - / 415v	87 mm x 1.6 m	£2,166.67	£2,600.00
Forsa 4.0 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 1.6 m	£2,995.00	£3,594.00
Forsa 4.1 - P2	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 2.1 m	£3500.00	£4,200.00
Forsa 8.0 - P3	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 2.6 m	£4650.00	£5,580.00
Forsa 9.0 - P3	Professional	Inc Professional STC + TWE + TLE + Scorer	6.5 / 1.0 / 415v	107 mm x 3.2 m	£4,800.00	£5,760.00

STC = Sliding Table Carriage. TWE = Table Width Extension. TLE = Table Length Extension. P3 models inc extra support table & clamp.



**Professional Series** 

**Professional Series** 



## Map chest



▲ Pic.1 Mortising the sides of the cabinet...



▲ Pic.2 ...ready for the tenons on the front rails



▲ Pic.3 The top and bottom rails, meanwhile, were dovetailed into the sides...



A Pic.4 ...in which the tails were formed using a small pull-saw...



▲ Pic.5 ...to create a neat, strong joint

rids and scales, contours and colouring — maps are marvellous things. There's something beautiful about the way that they capture the shapes and patterns of a landscape with their symbols and shading, and frame it with their graduated borders. The

combination of the ordered and the organic is a little like cabinetmaking, which is why 'cartography' seemed a significant enough style to give Martin sufficient inspiration for his latest challenge.

It would've been easy to simply copy a chart cabinet, of course, but that wasn't what we wanted. We were after something small and intricate; something with the feel of a jewellery cabinet, say, or a small collector's chest, that incorporates details drawn from the art and science of cartography. And we liked the idea of glass and complex pattern too, so... over to you, Martin...

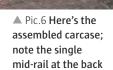
#### Scaled-down design

Thank goodness for that! At first I thought the cabinet was going to have to hold unfolded A0-size charts, but the brief allowed me to scale down the piece, sizing the six drawers so that they'll usefully hold A4-size documents.

The drawers themselves are made up using simple lapped joints that are strengthened with brass pins. Dovetailed joints were eschewed not because of their complexity, but so that more time and effort could be channelled into decorating the cabinet. That

said, the drawers add some visual interest thanks to their different depths: the front panel of the top drawer is 50mm deep, and each successive drawer increases in depth by 10mm so that the bottom drawer is 100mm deep. This feature is underscored by the decorative scale ribbons across the front of the drawers, which also increase in size.

I decided to make these ribbons from glass (see A touch of glass) in order to create a sharp contrast between the black & white sections, something that I wouldn't have been able to achieve with timber. Also, while timber inlay



would fade and bleach with age, lessening still further the contrast in the ribbon, the glass won't change.

The choice of American cherry for the cabinet was also influenced by the piece's cartographic theme. Not only is cherry an excellent timber for small cabinets but, when polished, its wavy grain pattern gives

the impression of contour lines on a map. The theme was interpreted more literally, of

course, by the marquetry map on the top of the cabinet. This borrows some of the familiar elements and colours from conventional maps — sea, sand, built-up areas, different classes of roads, as well as grid squares.

#### The carcase

Making the cabinet's carcase is straightforward. As with any small piece of furniture, however, any flaws will be all the more obvious, so good workmanship is essential, especially in the fit of the drawers and the

## The big project



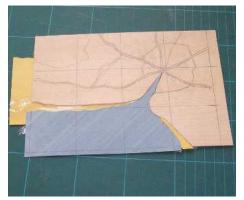
▲ Pic.7 The plinth has mitred joints, strengthened with blocks that were glued and screwed into the corners



▲ Pic.8 The plinth was attached by screwing through the bottom rails into blocks glued to the inner faces of the plinth



▲ Pic.9 The dyed and harewood veneers used in the marquetry panel are available in these small sheets



▲ Pic.10 Map-making: the design was drawn onto the veneer to create the pieces...



▲ Pic.11 ...which were assembled on a sheet of 1.5mm ply, divided along the grid lines...



▲ Pic.12 ...and then re-assembled on the sub-base together with the veneer grid lines

ioints in the front face of the carcase.

The cabinet sides are made up of two planks, edge-jointed, with their growth rings alternated to reduce the risk of cupping. These panels are then joined with rails front and back. The intermediate front rails are tenoned into the side panels; the top and bottom rails, both front and back, are dovetailed into the side panels.

Before assembly, the inside edges of the sides are rebated for the back panel, as are the upper and lower back rails. The rebates in the side panels have to be stopped short of where they meet the back rail, the corners of the rebate being trimmed square after assembly. The mid-rear rail is inset by the depth of the rebate to give clearance for the back panel.

The plinth is made up of three sections that are mitred together and strengthened with blocks glued and screwed into the corners. A simple shallow curved section is removed to lighten its appearance. To attach the plinth to the cabinet, I used blocks of wood glued to the plinth that allowed me to screw through the lower rails: the screw holes themselves were elongated to allow for timber movement.

Map-making

Rather than inlaying the map directly into the top panel, as would be usual, I built up the design on a sub-base, which was then let into a rebate routed into the panel

The veneers used for the map are either sycamore, coloured with water-based dyes, or chemically treated veneers called harewoods. Typically, harewoods are made from ash, maple and plane, and the process by which they're produced involves oxidising the timber rather than dyeing it, and the result is a range of silver-grey colours. If this is your first foray into veneering, you'll be able to source the materials quite economically by buying packs of small sheets.

Having cut all the necessary pieces, the map is made up by gluing them to a sheet of 1.5mm ply. Once dry, the positions of the grid lines are carefully marked out, and used as guides to cut the map into separate squares. The lines themselves are represented by black-dyed timber, laid on edge. To make room for the thickness of the grid lines, each piece of the map will need to be sanded slightly; this will also square-up any bevelled edge left by the cutting knife. The map, which has become a very simple jigsaw puzzle of squares and grid lines, is then reassembled on a 6mm MDF sub-base.

Like the cabinet sides, the top panel was made up of two edge-jointed planks. Once the



When routing the map rebate in the top panel, you can prevent the router tipping into the rebate by attaching a larger base plate to the router. All you need is a piece of MDF or ply that's drilled to match the tapped holes on the regular base plate.

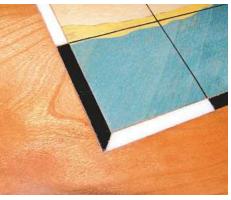


GW296 September 2015 www.getwoodworking.com

## Map chest



▲ Pic.13 The marquetry panel sits in a rebate routed in the top panel; the large sub-base on the router prevents it tipping



▲ Pic.14 Martin allowed for a border of glass sections between the marquetry panel and the top panel



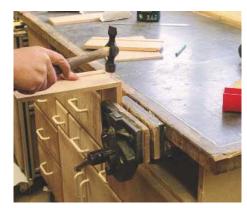
▲ Pic.15 The top panel was attached with screws, countersunk so as to clear the drawer



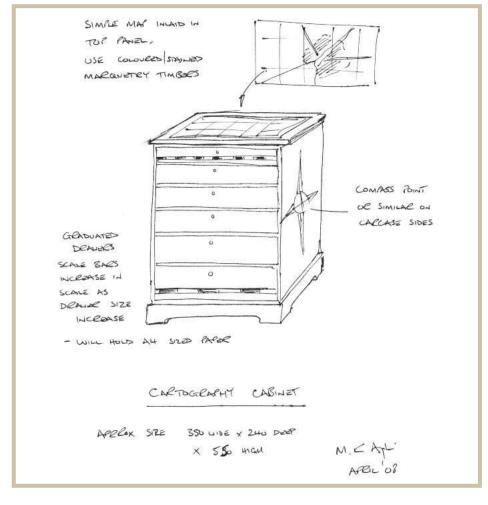
▲ Pic.16 The drawer side and front panels were routed for the drawer runners, the MDF bottom panels, and the glass inlay



▲ Pic.17 The drawers were constructed with simple half lap joints...



▲ Pic.18 ...and strengthened with decorative brass pins





## The big project



▲ Pic.19 The glass sections were glued into the routed grooves with builder's epoxy



▲ Pic.20 The drawer runners were thin strips of cherry glued and pinned to the side panels



▲ Pic.21 The compass roses were based on common designs and were drawn; you could always try some more marquetry



▲ Pic.22 Martin turned some thicker acrylic windows for the brass bezels...



▲ Pic.24 The compass rose rose acrylic window and brass bezel, ready for fitting



▲ Pic.23 ...and drilled the steel back plate so that it could be screwed to the side panels

rebate for the map has been marked out centrally – I left room for a border of black & white glass sections that represenst a scale ribbon – the bulk of the waste can be removed free-hand before fitting a guide fence to produce the straight edges.

Once the corners have been made square, the marquetry panel can be glued into the rebate, taking care to ensure that the panel is flush with the table top. If you're adding the glass scale ribbon, the top needs to be scraped and planed smooth now, as the glass segments obviously can't be sanded.

#### **Drawers...**

Apart from their bases, which are made of cherry-veneered MDF, the drawers are made from solid cherry using simple lapped joints strengthened with brass pins. The drawer sides are grooved to accept the drawer runners, the groove itself being hidden from view by the front panel. The runners themselves are made from thin strips of cherry pinned to the side panels, and so



A touch of glass

I chose glass for the scale ribbons for no other reason than it's a material I'm used to handling: I make simple leaded-glass panels, usually in Art Deco or Art Nouveau designs, for inclusion in the frames of decorative mirrors. For the scale bars, then, I cut the glass sheet into thin strips by scoring the glass with an oil-lubricated tungsten wheel cutter and then snapping it along the score line. The strips were then scored again to produce segments of the required size. I used a diamond grinder to trim the pieces to the exact width and length required to fit in the routed grooves in the drawer fronts and cabinet top. I used an instant-grab adhesive to fix the glass in place, as it will stick just about any two materials to each other!

positioned as to act as drawer stops, too.

Once again, the glass scale ribbons are set into routed grooves. Because each ribbon has an odd number of sections. the outside pieces are the same colour black in the case of my cabinet — while the centre pieces alternate

between black and white. The finishing touch was the fitting of contemporary brass knobs.

#### ...and decorations

The compass roses — the figures that show the orientation of the cardinal points on a map or chart — were simply drawn on white card using draughting equipment: the coloured section in the north point is coloured card let into the rose, marquetry fashion. To mount the roses, I used some items that are sold as 'open box lids' that are intended for turned boxes, and consist of a polished brass bezel that is a press-fit over a steel backing plate. The protective acetate sheet supplied with the lids was far too thin for my purposes, however, so I turned some new discs from clear acrylic sheet. The steel back plates were drilled and screwed to the sides of the cabinet, and the brass bezel pressed into place.

What was it they wanted? Grids and scales, contours and colouring? Well, I think this piece has all those, though there's plenty of room for you to develop the theme further, to incorporate different materials, scale up the design, or sub-divide those drawers to create a collector's cabinet. And guess what they've asked for next time — a wall-hanging cabinet that explores how Art Deco might've evolved in a twentieth-century in which the Second World War didn't spoil everything.

Crikey. I'll see you in a parallel universe some time soon then!





# Pop/Deco Chest

#### Oak, birch ply, Corian, leather

The Pop/Deco Chest was created to make a statement, to provide a focus for a room; its design was intended to give it a personality that will inspire exploration and conversation and, ultimately, create a reaction and cause a smile," says its maker, Richard Warmisham, who recently completed a year-long course at Marc Fish's Robinson House Studio in Newhaven, East Sussex (*GW*288).

The inspiration behind that personality has its roots in the Memphis Art movement of the 1980s, but – because Richard's design aesthetic mixes the traditional and the contemporary – it also gives a nod to the iconic steamer trunks of the 1920s, hence the chest of drawer's double-barrelled name. And there's certainly a suggestion of well-tanned luxury in the grain of the fumed oak constructional veneer that flows over the top and down the fronts of the 'floating' drawer units. Slicing through the oak – and through the drawer carcases, too, it seems – are those elegantly tapered chevrons, whose striking scarlet finish comes from a 12mm-thick veneer of Corian.

Underneath its glamorous skin, the Pop/Deco Chest is made from 18mm birch ply which not only makes for strength and stability but also weight, which is why the legs are braced by two solid oak

stretchers – stained with squid ink, apparently, to match the colour of the fumed oak veneers – into which they're tied with sliding dovetails. The drawers, meanwhile, run on under-mounted, push to open/soft-close mechanisms, which obviate the need for handles – distractions, says Richard, that would have interrupted the flow of the Corian running across the fronts. Otherwise, the drawers are quite traditional in their construction: the sides and slips of rippled sycamore, detailed with wenge dowels, contrast beautifully with the oak, while cedar of Lebanon lends its aroma to the bases.

The Chest's woodwork is finished with several coats of Osmo Polyx oil, while the Corian's final, high gloss comes from an 11,000-grit polishing agent.

"If I had to describe the finished piece," Richard reflects, "I'd say that it's bold, elegant, innovative, original, playful, and enigmatic," but you can judge for yourself at the Celebration of Craftsmanship and Design in Cheltenham, 22-31 August, where the Pop/Deco Chest has been chosen to represent Richard's new furniture-making business, Made by 68°.

**Dave Roberts** 

## Pop/Deco chest by Richard Warmisham



The drawers' wenge dowels were inserted at an angle so that, when trimmed flush...

Contact Richard at... ...Made By 68°, Studio 15, 176 Shoreditch High Street, London, E1 6AX, www.madeby68°.com



...they created this oval shape, which makes a subtle point of difference

To match the Pop/ Deco's legs to the weight of the 18mm birch ply drawer carcases, Richard braced them with stretchers that are tied in with sliding dovetails





"Squid ink?" you ask. It's true, the ever inventive Robinson House Studio is experimenting with it as a stain. "It is extremely black," Richard reports, "and when watered down works really well; it can be applied by brush or rag and gives a very even finish."



"Machining the Corian," says Richard, who took a two-day Corian fabricator's course, "to make it look seamless was at times challenging..."

**Turn the page** to see more exhibits expected to be on display at **Celebration of Craftsmanship and Design** 



Sheer laminated genius: Robert Scott's fantastical Waiho console table. He founded his studio in 2013 in his hometown of Preston, Lancs, after gaining a degree in furniture making. He draws on experience and skill gained from his days as an aircraft fitter, but in 2006 left aviation to travel in Asia and New Zealand, that country today inspiring much of his work

# It's that Cheltenham time of year...

...when top designer/makers gather to exhibit their finest work at the UK's premier selling event



David Ian Smith's Shinto console table in English sycamore with ebony inlay

elebration of Craftsmanship & Design, the Cheltenham furniture show that is now in its 21st year, is not only the highlight of August but the whole year, providing as it does a showcase for more than 70 of the finest makers to show the world that the UK is producing work at the forefront of design and skill.

This year's show, from 22-31 August, as ever at Thirlestaine Long Gallery, not only features the work of leading well-established makers but also displays that of up-and-coming young men and women. Mainly furniture, this is set off by some sculpture, jewellery and silver.

This exhibition boasts around 300 diverse pieces, with styles ranging from simple and sleek to fanciful and decorative.

"We've seen a consistent feed of

really talented makers coming through each year," says director Jason Heap, who is hosting the exhibition for the sixth time this year. "It's really inspiring to know that the passion for true craftsmanship is alive and well in the UK." He also understands the opportunities for his visitors: "Whether people come just to view the amazing work, or are here to enhance their homes with something unique and exceptional, they all seem to leave with wide eyes and wide smiles!"

Up for grabs will be the Alan Peters Award for Excellence, Best Use of British Timber Award, Woodland Heritage Award, the Worshipful Company of Furniture Makers Design Prize and the Visitor Prize Draw. For more details visit:

For more details visit: www.celebrationofcraftsmanship.com

## Celebration of Craftsmanship & Design



Thomas Eddoll's oak and cherry table for his company English Fine Furniture



Walnut Sunrise bed by Hugh Miller



Detail from one of Kevin Stamper's Summer Field lamp tables



This Wave table by Nick Kary would surely have won the approval of the late great Alan Peters whose Fortuny pleat-style consoles broke barriers a couple of decades ago

Steven

mantle clocks



Time stopper: long-case clock by Robin Furlong opens elegantly



Fashion mags would call this hot yellow a pop of colour, but we like the support structure on Sarah Christensen's imaginative sideboard





How pretty are these: Kingswear table and chair by Thomas Whittingham



Beautiful use of figure in these Waywood chairs



▲ Pic.1 The edges of the shelving boards are planed true

esearching and then making a co-sleeping cot turned out to be guite a journey of discovery for me. My daughter, who lives in Denmark, had come across such cots and when her first born was due she asked me if I could make one... "Of course I can," was my naïve response, among other things forgetting that I had to produce something that on the one hand could be flat packed for transportation and which on the other had to conform to a plethora of safety requirements.

Co-sleeping can be a confusing term as many will understand it to be sharing the same bed, which raises a frown from midwives and health visitors. However the concept behind this cot is that it allows the parent close contact with the baby during the night without both being in the same space. Sometimes they are called bedside cots or bedside cribs, and those terms do explain a little more clearly the intention behind them. It seems generally accepted that this type of cot is safer than bed-sharing and in the USA for example studies have been carried out on the subject.

The American Academy of Paediatrics recommend the approach as the indications are that Sudden Infant Death Syndrome (SIDS) becomes reduced where they are in use. Having said that, however, such cots are not suitable immediately after the child is born, when it is safer to use a Moses basket or similar. However, within a few weeks the co-sleeper can come into operation. For more information on this subject try this useful book by James McKenna, Sleeping With Your Baby (Platypus Press).

#### Cot design

The journey involved in this project began with visits to baby paraphernalia stores in the hope that I could have a close look at one and take some measurements. This proved quite difficult as the only ones that I could find were either made of canvas with a light metal frame, or were rather square and ugly. A swift search on-line however turned up exactly the design that my daughter wanted. She very

## Co-sleeping cot



▲ Pic.2 Sash cramps are used to achieve the butt joint in the boards



▲ Pic.3 A card template was made to trace the outline of the mattress



A Pic.5 Shaun finished the edges with a sanding stick

much liked the curved outline and asked whether I could ensure that the construction allowed the cot sleeping surface to be set at different heights in case in future there was a change of parental bed to which the cot could still attach. A challenge I thought; and set about considering the components that I would need to make.

I started with the mattress, which should be specifically made for the purpose and conform to standards that include breatheability and being fireproof. The mattress that I used was made by the Little Green Sheep Company and can be ordered direct or via the National Childbirth Trust website (www.nct.org.uk). It has



Pic.4 A jigsaw makes short work of cutting the overall shape



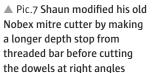
▲ Pic.6 The drill press comes in handy when cutting a series of holes

a latex foam interior and a natural bamboo fabric cover. It came with the necessary certification indicating conformity with the required safety standard BS1877-10. In every aspect I was very pleased with the purchase, which at around £35 turned out to be the most expensive item of all of the various components.

The great advantage of starting with the mattress of course is that it could be used as a template for the sleeping surface and the base (Pics.3-5). To prevent damage to the fabric I got hold of a large cardboard box, flattened it out and drew around the edge of the mattress to get the shape ready to transcribe onto the base and sleeping surface once they were

## Project





▲ Pic.8 The dowels all cut to length

made up. An important criterion in the safety standard mentioned above is the tight fit of the mattress to the edges of the cot, so the sleeping surface and base are no more than an inch all around the curved edge larger than the template. The front edges are flush.

#### Cot construction

After making the template I had to decide how best to put the woodwork together. The dimensions of the sleeping surface and base (950 x 560mm) meant that I could use inexpensive shelving boards, from the B & Q Value range, butt jointed and shaped with a jigsaw. To ensure a strong join I planed the edges of the boards (**Pic.1**) and put them together with sash cramps (**Pic.2**). The boards are plenty strong enough to handle the stresses and strains of a baby, but I also had in mind a future use for the structure when it was no longer needed as a cot. This idea was

to convert it into a small sofa, see panel.

The bars are dowelling bought in 2.4m lengths, and each length provides three bars so six full lengths were needed. I used my old Nobex picture frame mitre cutter set at right angles to get good square ends, and to ensure each measured exactly 800mm in length I modified the length stop with a threaded bar that was much longer than the original depth stop bar. To conform with a further safety requirement (contained in BSEN 716 parts 1 and 2) the bars should be no more than around 65mm apart and vertical. Horizontal bars would provide an ideal ladder for the little one to climb up and escape... however attractive a thought that may be from time to time!

#### Now for the dowels

Once the position of the dowels was marked out on the base and then around the edges of the sleeping surface I was able to drill them

with my 16mm, 18mm and 20mm Clico 542 series bits (**Pics.6-8**). These have a serrated outer cutting edge, which gives a very clean cut right through. The dowels were 16mm each with one 18mm bar on each end for added strength. The holes around the edges of the sleeping surface had to be a little larger than the dowels themselves so that the mattress surface could slide up and down to ensure the height could be adjusted. The holes in the base and later into the top rail were only cut to two-thirds depth and to ensure a tight fit were the same size each as the dowels.

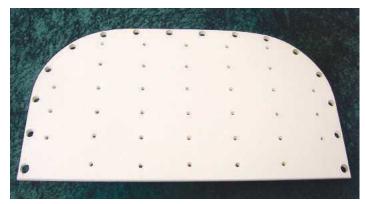
The top rail (**Pic.9**) presented a few problems in that my first attempt was made from 2 x 1in timber joined at the ends into a wide sandwich and then shaped with the jigsaw. This promptly broke across the narrowest part of the curve where the grain was short, making me re-think the best way forward. At my next attempt I used 19mm ply and it worked a treat.



Pic.9 The top rail made from 19mm ply



Pic.10 Turning the bun feet on his small lathe saved considerably on expense



▲ Pic.11 The sleeping surface must have a sufficient number of breather holes to conform to requirements



Pic.12 The mattress must fit closely to the dowels

## Co-sleeping cot



▲ Pic.13 The clasps under preparation



Pic.14 A full set of clasps ready for use



▲ Pic.15 The base decorated for fun



▲ Pic.16 The simple design for a cot front

The ply was easy to cut and drill and was very strong at the curved points where the laminated softwood was not up to the job. As with the base, the holes in the top rail were cut to two-thirds depth. I left two corners on the rail, slightly rounded, to act as small shelves for a toy or whatever, warning of course that no hot drinks or anything potentially harmful might be placed there.

To finish the base I turned four bun feet on the lathe out of softwood (Pic.10) and attached them with glue and 10mm dowels. The feet were intended to give the whole structure a little more height and to add a touch of style.

#### **Breather holes**

The next task was to make sure the sleeping surface had breather holes - a further requirement of the safety standards – and that they were cleanly cut to make sure no splinters would appear at any time (Pic.11). To make a perfectly neat job I cleaned both ends of each hole with a tapered honing bit which left a smooth line.

Before long I had to look into holding the sleeping surface firmly in place, while allowing it to move up and down (Pic.12). The solution was a set of clasps made from 32 x 18mm softwood, drilled at either end to allow the dowels to pass through and then sliced down the middle with the bandsaw (Pics.13-14). I also planed a few shavings from the inside edge of each of the halves of the clasps so that the fit would be that bit tighter. A 6mm bolt with washers and a wing nut holds the clasps together and locks them onto the bars,

allowing a weight far in excess of a baby or later on a small child to be placed onto the cot to test the strength.

#### Assembly & finish

Before putting the whole structure together I had to decide on the best finish to use. There are strict standards around the use of paint on any products made with children in mind and I chose Roncraft's cupboard paint. It did not require any primer and is very hard and resistant to wear and tear. Two coats gave a very even satin finish which looked good and had a very pleasing feel to it. Luckily my wife is a spare-time artist and she was able to create a nice and simple design to lend a little colour and fun (**Pic.15**). The cot bumpers by the way should fit well and not have ties near where the baby could reach them.

At some stage in the cot's life it could become free-standing. With this purpose in mind I constructed a simple front attachment from dowels and 38 x 19mm softwood. This front can be held on with ties or screwed into place (Pic.16).

Assembly of the cot took place in Denmark and was very straightforward. First I attached the bars into the base with glue and wood screws from underneath. Cup washers were used to prevent the heads from working into the soft pine and the screws (38mm chipboard) were fully threaded to ensure a good grip up into the end grain of the dowels. Then the sleeping surface was slid on and allowed to drop onto the base. Next, the top rail was added and this time I used epoxy glue and tapped the rail onto the bars with a rubber mallet.

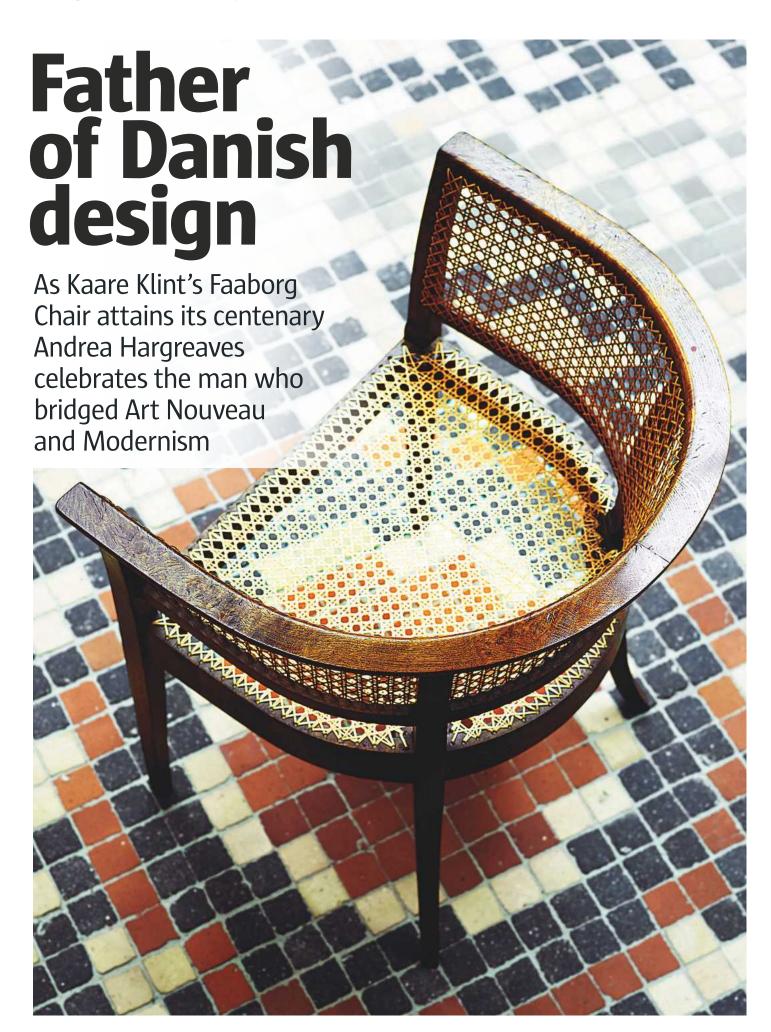
Once the structure was rigid the height of the sleeping surface could be set and the clasps put into place. Attaching the cot to the side of the bed can be achieved by using cabin hooks or ribbon ties, provided neither give rise to any finger injury or entanglement danger. If the base of the cot is used for storage purposes then the added weight helps to keep the base stable, but as long as no gap is allowed between the bed and cot the baby will be safe.

#### From cot to sofa

To convert the cot later on into a sofa for a small child is very straightforward. The clasps are lowered and tightly secured and the mattress is replaced with cushions to make an ideal addition to a child's playroom, which incidentally was decorated by my wife with a design to echo that on the base of the cot.



By sliding the clasps down the cot can become a child's sofa



## Faaborg chair



Professor Kaare Klint at his drawing board

e tend to think of the mid-20th century as being Scandinavia's in design terms but Kaare Klint was in fact designing a chair that was to become Denmark's first modern design classic 100 years ago.

In 1914, at just 26 years of age, Kaare Klint collaborated with architect Carl Petersen to design a unique furniture set for the Faaborg Museum, which was officially inaugurated in 1915. The joint effort resulted in the birth of the Faaborg Chair. This piece ushered in a new era for Danish design, creating a foundation for its development and for what we now associate with the Danish Modern phenomenon, which put Danish design on the world map in the 1950s.

Kaare Klint's oeuvre in general – and the Faaborg Chair in particular – could be said to have advanced the evolution from neoclassicism to modernism, and his works are regarded as hallmarks of Danish furniture



First the boards are outlined...



...before cutting can begin

design. The Faaborg Chair is, to this day, an integral part of the gesamtkunstwerk (total work of art) that is the Faaborg Museum, where the 18 historic chairs remain on permanent display in the large exhibition hall.

#### In like Klint

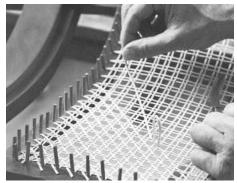
A central figure in Danish design, Kaare Klint (1888-1954) made a name for himself as a furniture designer in the early 1900s. He was also responsible for the overall design of the Danish Pavilion at the 1929 Barcelona International Exposition, and the Safari Chair, designed in 1933.

The son of architect Peder Vilhelm Jensen-Klint, Kaare Klint was immersed in architecture from an early age, but it was primarily as a furniture designer that he made his mark on Danish architecture. In 1924 he helped establish the Department of Furniture Design at The Royal Danish Academy of Fine Arts, and the following year was made associate professor and later professor. As a teacher, he inspired a number of prominent Danish furniture designers who would shape the golden age of Danish design from 1945 to 1975. Through his teaching and his own work, he influenced a generation of the greatest Danish furniture designers and architects from Hans J Wegner and Mogens Koch to Arne Jacobsen, Børge Mogensen and Poul Kjærholm.

Today, Kaare Klint appears in many ways to have been a reformer whose approach to architecture and design broke radically with the period- and style-focused academic teaching of the day, emphasising instead the practical study of architecture and furniture



...then left to dry...



There's a lot of rattan to be woven



This elm stump is providing the timber for ten special edition chairs

#### What the experts say

Gorm Harkær, architect and author of a monograph on Kaare Klint: "Kaare Klint's Faaborg Chair represents a turning point in Danish furniture design and marks the dividing line between decorated Art Nouveau furniture and the functional tradition Denmark perfected with the Danish design phenomenon."

Anne-Louise Sommer, Museum Director, **Designmuseum Danmark:** "With the Faaborg Chair, Kaare Klint and Carl Petersen created a unique contribution to Danish furniture design. With its light and elegant appearance, the chair paved the way for the Modernist expression in design which became popular a few decades later."

Gertrud Hvidberg-Hansen, Museum **Director, Faaborg Museum:** "Kaare Klint's Faaborg Chair is an unusually captivating chair. It is characterised by expansive, simple lines [that] give the chair monumental impact, but also envelope you as you sit in it, creating an intimate

Architect Carl Petersen on Kaare Klint, **1920:** "I see him as our best furniture designer. I feel like saying our only good designer. In a few years it will become apparent that Kaare Klint is making the greatest contribution to Danish furniture

## Significant styles



Elm burr chairs in the museum



All that elm burr work calls for some very skilled craftsmanship

### **Company history**

Rud. Rasmussen was founded in 1869 by Danish cabinetmaker Rudolph Rasmussen. By 1874, the company had set up its own workshop in central Copenhagen and was soon hired to make furniture for Copenhagen's Hotel d'Angleterre. After a fire destroyed the first workshop, Rud. Rasmussen established a factory in 1875 in the vibrant Nørrebro neighbourhood in the heart of Copenhagen, where the company continues to produce Danish design masterworks.

Rudolph Rasmussen's sons realised their father's plans to build a new, larger factory in 1911. In the 1920s, the company began collaborating with some of Denmark's best-known furniture designers, including Kaare Klint and Mogens Koch.

The company's collection of worldrenowned design classics includes the Faaborg Chair, Mogens Koch's bookcase and cabinet system; Poul Kjærholm's iconic Professor Desk; and designs from other Danish greats such as Mogens Lassen and Arne Jacobsen.

The pieces are produced by 28 cabinetmakers.

design principles. In Klint's process, in-depth analysis of an object's function and uses preceded work on its form. He renewed Danish furniture design by refining tradition and developing objects to perfection in relation to their primary purpose.

From the outset, he focused on furniture's purpose and function, as well as on ensuring that his pieces never dominated a given space. Characteristic of his approach is the harmonious balance between form and materials, often combined with reminiscences of earlier styles or foreign cultures.

#### **Human furniture**

Klint's designs are often referred to as human furniture, as he believed that it should conform to the user and based his classic designs on careful study of the human body.

He designed the Faaborg Chair to be lightweight so museum visitors could



easily move it around and place it in front of paintings that they wished to study at greater depth.

The working drawings from early 1914 depict a slightly different design than the one that was adopted by the museum. The drawings show that a small backrest was envisaged above the rail. A beech prototype, made later, featured outward-curving front legs and vertical back legs – the opposite of the design Klint chose for the final result.

The original chair was made of oak burr, the part of the tree that forms when fibres bend, twist, and become intertwined during growth. Oak burr typically grows on the tree's roots or on the outside of the trunk in the form of knots, forming irregular patterns in the wood, and its use requires much skill. The wood was treated with wax to bring out its glow and patterns. The seat and back were made of a relatively open rattan to give the chair lightness and transparency and to ensure that the unique floor mosaic would be visible through the seat. The chair's legs were also spaced such that they would not stand on the grout between the floor tiles.

Klint also placed great emphasis on the chair's texture. Ornamentation and details were omitted, leaving the first example of simple, modern Danish design. The chair

marked the beginning of a Danish design tradition and school of thought that Klint established and later advanced as founder and professor of the Department of Furniture Design at The Royal Danish Academy of Fine Arts.

Klint finished his final working drawings for the chair in June 1914 and presented it at the Danish Museum of Decorative Art (now Designmuseum Danmark) in January 1915 and later at the Faaborg Museum opening on June 6, 1915. Today, the museum's original Faaborg Chairs are still part of the furnishings.

The chair is still made by the Rud. Rasmussen joinery that has been creating design classics since 1869. The workshop is now owned by Knud Erik Hansen who said: "Our acquisition of Rud. Rasmussen was an affair of the heart – one that reflects our desire to honour Danish

craftsmanship traditions and tell the story of Danish furniture classics. We have big ambitions of expanding awareness of this era in Danish design history, particularly the first 30 years of the 20th century – a

period in which Denmark's oldest joinery and Kaare Klint's Faaborg Chair played central roles."

To mark its 100th anniversary, Rud. Rasmussen is releasing a ten-piece special edition that pays tribute to the original as well as a walnut anniversary edition in which the first 100 pieces will be numbered. The special edition uses burr from an elm that stood in Rud.

Rasmussen's back courtyard for 100 years and was felled 25 years ago.

The special edition comprises just ten unique pieces and will be on display as part of an international travelling exhibition in 2015. Initially, these chairs will not be offered for sale.

As part of the centennial celebration, 100 Faaborg Chairs in walnut will be made, featuring an oil-treated surface and a seat upholstered in black Niger leather. The first 100 of these will be numbered.





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## **Profile**



Gavin Munro is conducting a brave experiment that could see furniture being harvested from the tree. **Barrie Scott** is intrigued

avin Munro has an unusual crop in the ground: furniture. He is exploring possibilities around training the growth of young trees using formers and grafting techniques to harvest ready-shaped chairs, lampshades, mirror frames and tables.

After early experiments he is now going for it on a manufacturing basis. In 2008 he planted about 3000 trees in a 2½-acre field in Derbyshire. His "work in progress" includes researching with various trees – an ongoing design phase for the most efficient framing to shape the saplings around – and, above all, a keen eye on organic land use for a sustainable, low-impact production method.

He is moving forward earlier traditions of controlled tree growth. In museums one can see the 1-piece Sycamore hay fork, the growth

of the tines being directed to suit its use – lighter and much stronger than craftsmen could fashion because of the natural strength of uncut wood grain. The mighty curved struts in Elizabethan-style oak framing are arguably the product of purpose-bent branches. American enthusiast and farmer Axel Erlandsen created wonderful examples in his Tree Circus – which can be seen at Gilroy Gardens, in Scotts Valley, California – and also see www.pooktre.com for what fun can be had. The principal has similarities to the flattened espalier trees in decorative gardens and parks – but several stages on.

Gavin's business, Fullgrown, is currently working with ash, sycamore, hazel, sessile oak, red oak, crab apple and the common osier willow used for basketwork. Experimentation has shown that, surprisingly, oak in its early



Successful early grafting experiment of young shoots



Test pieces to try out finished shaping

## Growing timber for furniture





Early prototype



The initial trunk, laid horizontally, is the head member of your chair frame. The three or four shoots that grow vertically from this become the spindles – similar to what occurs with hedge laying. Each chair will grow differently and I could defy designers to create joinery members that could rival in beauty and variety what nature does with new growth.



A chairback: the trunk becomes the top rail, the shoots are becoming spindles, and the secondary shoots indicate how the chair designs itself



A willow discovering how to become a chair

In the same way as coppicing a tree will cause newer and stronger growth after each cropping, so a chair, when harvested, will leave behind a stout maturely rooted stump, tapping soil nutrients for vigorous new growth. These stumps visually resemble a connection with a gas main or electric cable; in fact it actually is plugged straight into an energy source: the soil.



A sturdy 5-year-old willow coppice stool ready for production

growth can produce as quickly as the willow. That is, a chair in 4-5 years. Gavin finds the best contender is sycamore.

#### The growing

The research observes the behaviour of new growth and how to harness it. He answers comments about forcing trees into unnatural habits by saying: "You cannot force a tree. Nature determines the way it chooses to grow and the style of the furniture; you have to work with it." I would add that tweaking newgrowth timber is nowhere near as unnatural as what happens when us joiners get hold of it!

An early lesson was that trees grow outwards so you grow chairs upside down with

#### Which tree



Sycamore: maybe the most prolific and useful



Crab apple is full of character



Hazel is doing a neat job too



Willow grows straight and true

## Profile



About half the operation

The shaping



A table in its youth



Young ash



Early production run showing stabilising wire and spacer sticks

The shaping to begin the seat or tabletop is again a studied technique. The newest growth is rubbery vegetable matter, best bent in spring and summer. It can be easily doubled back into an 180° bend. If left the twig begins to lignify – Gavin taught me this word and I'm damned if I'm not using it! – or it will turn woody, and can fracture if bent. The first shoots will have been fastened to the frame using rubberised horticultural wire ties and are trained back into the horizontal to make the seat. Their next journey will be up the legs

towards the sun until they are thick enough.

This is a simplified view and when in leaf it

takes true craft skill to see the wood for the trees – sorry! – and envisage a chair. During these stages, chair members will be variously grafted together for strength and rigidity. During the prototype stages Gavin mastered grafting and things became viable. Any laminations increase the strength of timber so when the fibres of separate members are grown together into a fibrous mass then strength multiplies.

The blue and black boxing seen in the photos is made from the corrugated plastic sheet used for house sale signs, which is tough and workable. They are designed to lock together with an assortment of slots to attach



The ties and a graft technique on an early willow mirror frame

the shooting twigs. These are secured in rows by fence wire attached to stout end posts to give strength and flexibility. Rigidity could restrict growth.

#### Gavin's philosophy

Gavin has devoted time and much work into this project but wants to share his findings rather than concentrate on exclusivity for profit. To this end he produces an online newsletter, newsletter@fullgrown.co.uk/contact. Compared, he explains, to the decades spent growing usable timber, the energy consumed in transport and manufacturing, this technique could

#### Only three tools



Axminster Arbortech



Fine drawknife



This drawknife can also be used for pushing

## Growing timber for furniture



Gavin checks willow frames using a trained shoot to match the opposite side

> Pair of mirror frames showing spread shoots at base and graft at the top

A robust mature stump ready tapped to provide four products







Gavin checks a reassuringly healthylooking sycamore



The function of this willow experiment isn't yet clear. Any suggestions?



CAD image of finished product

substantially reduce the carbon footprint of production. He explains this in detail in his youtube lecture: Gavin Munro at TEDx Derby. This aspect of his work has been approved and grant-aided by the EU Green Business start-up scheme. Climate KIC.

The soil is fed organically, using a mixture of fish, blood and bone with spent hops. Wood-chip and grass mowings provide moisture-retaining mulch along with the planting of white clover, which also fixes nitrogen by the roots.

His plan for the finish of the furniture as shown in the CAD impression is to combine a "clean-cut geometrical look with nature," blending grain and bark. The bark, he assures me, stays on best if you harvest in winter. The shaping can be done with electric planers and sanders. He has made use of Axminster's Arbortech cutter as photographed. Mounted on a mini grinder, it takes the surface down effectively but with no guides or bearings, though in the wrong hands it could be a beast and grind down too much. But Gavin's inclination is, again, a green approach using an assortment of drawknives and cabinet scrapers.

Fullgrown's plan is initially to sell products

as one-off art pieces, proceeding to limitededition batches, with the final goal being an accessible, affordable product. His work has resulted in considerable advances in controlled tree growth and Gavin's plan to share his research could see interesting developments. Having always fancied training willows, I now have some clues how to proceed. For more info go to www. fullgrown.co.uk

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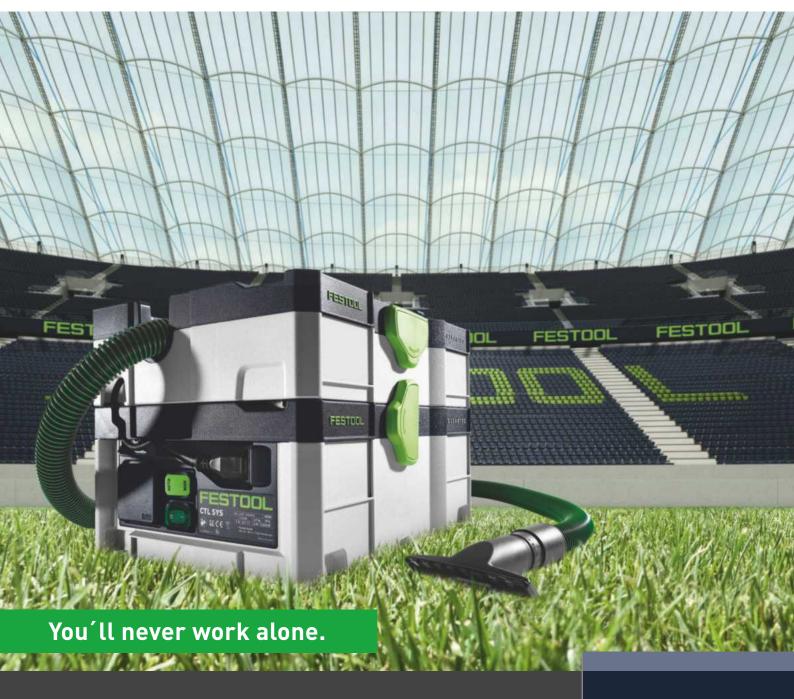
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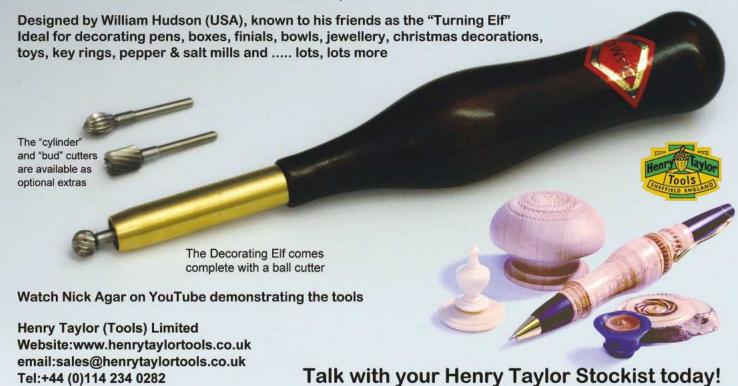


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## Superglue & yew

This piece Itaken from Cheam Woodturners Association's newsletter] is prompted by a recent article in Good Woodworking (GW293) when [Ben Boyland] reported a very serious reaction while using large quantities of superglue and dust from yew wood to fill a fissure in a table made from yew. The problem with these materials is that they can affect people in different ways and to varying degrees.

The best advice is to follow the particular instructions for the use of the superglue and to check any safety data sheets for the product with, at least, the following precautions.

Use in a well ventilated area, for example, outside or with the workshop door open or an extractor taking the fumes outside the workshop. Superglue can cause irritation of the eyes, skin, nose and lachrymation (tearfulness). Use only small quantities unless wearing correctly rated chemical protection breathing apparatus.

Note: When not in use, store chemical protection filters in an air-tight container so that they do not absorb fumes or odours.

Do not use a normal dust protection helmet unless it has chemical protection as well, otherwise the fumes will be sent directly to you.

Do not use any cloths that might include cotton as these are likely to/will self-combust. Know beforehand what to do in case of accidentally

gluing yourself and always have an in-date bottle of the related release agent easily accessible when using superglue.

As all wood dust is bad for you and fungal spores from spalted wood are dangerous – admittedly some, including yew, are more likely to cause problems than others – try to minimise the amount of sanding needed by the use of sharp tools and good tool use.

Always wear some form of personal breathing protection. Ideally use a dust extractor, preferably with the collection unit not in the workshop, and a micro dust collector. Remember to clean the filters regularly.

Gordon Cookson, Cheam Woodturners Association, with help from **Richard Hoodless and Jeff Cordery** 

Act on all this good advice and we should all remain, er, fast friends with superglue.

**Andrea Hargreaves** 

## Scaling up

After Phil Davy's piece in the last issue about saving his old Stanleys, in the course of which he used Shield Technology's Restore rust remover products, Shield's Paul Prince sent us these photos of a job that must have called for a vat of the stuff!

**Andrea Hargreaves** 



Engine side view before treatment

01923 249911



Engine side view after treatment





Rusty engine end view



Fully Restore-d: engine cross head and valve motion



#### **WRITE & WIN!**

and/or like to receive feedback about GW's features, so do drop us a line – you never know, you might win our great Letter of the Month prize, currently a Trend Snappy Colour Ring bit set. Write to the address on the left for a chance to enhance your marking capability with this versatile workshop aid.



## **Door regulations**

The article on the door made by Mike Jordan (GW294) was very good and the door looked fine. My query is about building regulations. Mike states that the door is at the rear and that rules about appearance are not so stringent, since when the building regulations clearly state that all doors and windows that are replaced have to be notified to building control before work starts and the replaced items have to meet the current regs.

In most conservation areas planning permission is also required.

The exception is FENSA-registered companies: their products will meet the regs.

Not complying is illegal. On selling the property certificates will have to be produced, maybe retrospective approval applied for and replacement if not complying.

I worked in the building industry for 46 years, 40 years in management and surveying and a registered competent person in one field.

The government has a website dealing with the requirement about building regs approval. See www.gov.uk / building work,replacements and repairs to your home.

Thanks for the information, Eric. The project appeared in an earlier issue of GW since when building reas may well have been updated. However, we can see no reason why Mike's door would cause any concern to a building control inspector. We felt it worth repeating because its joinery techniques are applicable in other projects. We do, however, suggest that readers always err on the side of caution. If in any doubt, always contact your local planning authority for advice,

The magazine is very good, I read it from cover to cover. Eric Barnes, Dip GAI, M.inst A.I particularly if the site is in a conservation area. **Andrea Hargreaves** 





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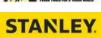














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# Ironmongery Direct



It's always good to see a power tool of some description hitting the headlines in a positive way. A few

weeks ago it was the turn of Dremel, appearing on national TV evening news. On Madagascar endemic ploughshare (angonoka) tortoises are critically endangered, the threat of poaching and animal trafficking making these gentle creatures particularly vulnerable. To decrease their value to the illegal pet trade. several of these rare tortoises had their shells engraved with a cordless Dremel multitool fitted with a burr. Although the animals didn't particularly enjoy the power-tool experience, they weren't harmed in any way. What a fantastic use for a cordless tool!

Phil Davy, Consultant Editor

#### **Book review**

#### **Using Woodworking Tools**

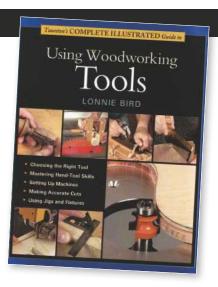
by Lonnie Bird

pages in total.

First published 11 years ago, Using Woodworking Tools is a comprehensive guide for beginners in particular, though there's lots for more experienced woodworkers too. Split into four parts, the format is slightly confusing as this includes a total of 15 chapters... Best ignore 'visual maps' and 'overviews' and crack on! Kicking off with a brief introduction to using wood, a chapter on fitting out your workshop plus an outline of tools and kit follows. American 'shops tend to focus on heavy-duty, cast-iron machines, and there are plenty featured across almost 280

Topics such as clamping pressure, 'shopmade clamping jigs and bench plane anatomy are fully explained with clear drawings, while photography is first rate throughout. Some 100 pages are devoted to hand tools, and techniques such as cutting dovetails and mortise & tenon joints are included, with no shortage of step-by-step photos.

The final part concentrates on power tools, which in the USA means machinery, from bandsaws to shapers (spindle moulders). Yes, dado heads are shown in use on a table saw not possible on most European machines –



plus unquarded blades and other sawing techniques we consider unsafe in Britain. A few simple warnings would have been sufficient here...

Although not cheap, this is probably one of the best introductory books on tools and techniques I've come across. Just skip the table-saw pages!

\*\*\*\*

Published by Taunton

Price: £29.99

Web: www.theamcgroup.com

#### 0&A

I have a couple of seasoned oak boards which are nicely figured, but they do contain one or two prominent splits. I'm planning to use the timber for making a table top, but what's the best way to fill the cavities when it comes to finishing the project? A few small defects would be acceptable, but I would rather not have gaping splits in the

C Teague, via email

European oak is notorious for splitting, A though you don't always want these defects on display. Assuming you have offcuts from the same boards, you could cut

matching fillets and glue them into the oak, trimming flush when dry. If you choose this method, saw the fillets first, then scribe around them with a craft knife. Masking tape stuck to the timber will make it easier to follow the lines. Then carefully rout the cavities, cleaning up with a sharp chisel. Tap the fillet into place and leave to dry.

For smaller defects, try using oak sawdust mixed with PVA glue. This will shrink as it dries, so a couple of applications may be necessary. A 2-part epoxy filler will be better for larger cavities. Ready-mixed filler dries quickly and is convenient, though again, colour match could be a problem.

## Autumn project

Takes: one weekend

**BOLECTION MOULDING** 



Phil Davy works out how to restore the moulding on panelled church doors

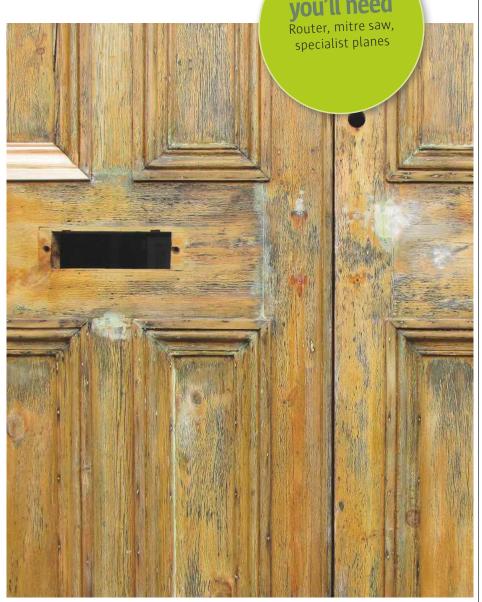
Renovation work is often more interesting than making something from scratch. Recently I was asked how to go about repairing a pair of substantial panelled church doors. Stripped and varnished a couple of decades ago, they had been at the mercy of the elements and had deteriorated over recent years. Although the doors themselves were OK, the bolection moulding surrounding the panels was in a bad way. While most of it was still intact, one long vertical section and a couple of shorter pieces were badly split and needed replacing.

The listed building is about 160-years-old, with the outer doors probably original. Although made from pine rather than hardwood, these were pretty weighty and two of us struggled to lift them off the jambs for stripping and repair. Not surprising really, as each one measured about 2760mm in height by 750mm wide. At almost 60mm thick, we were thankful they weren't from oak...

## **Bewildering** bolection

Bolection moulding is used as decorative edging around flat or fielded panels, rebated to fit over the stiles and rails. It's generally used on the face side of panelling or doors, while planted moulding is fitted to the reverse side. In best-quality work bolection moulding may be fitted to both faces. It should ideally be attached by screwing through the panel from the back, with elongated screw holes to allow for timber movement. The panel may either be MDF, plywood or solid timber. On these doors the moulding was simply nailed in place.

Hundreds of years ago bolection moulding would have been created with wooden moulding planes. These were generally superseded by the spindle moulder, where cutters were ground to match a specific profile. Although it's possible to buy bolection moulding from specialist timber suppliers, on a job such as this it's unlikely you'll be able to



find anything off the shelf that matches.

While I have about half a dozen old wooden planes, none came close to matching the profile required here. Most of my router cutters were not much use either, though a narrow veining bit was useful, plus a wide cutter for the rebate. A core bit was handy, but the remainder would mean working with shoulder planes and abrasives. Plenty of offcuts to experiment on were essential!

Largely a case of trial and error, it was pretty tricky to get a perfect match with the old moulding. I'm happy to say everything looked good in the end, though.

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These doors have withstood the elements for around 160 years. Now stripped, almost ready for painting



split badly and beyond filling. Prise off damaged timber



A profile gauge is the easiest way to determine exact shape needed for creating the new moulding



To check depth of existing moulding, hold combination square against door and adjust blade



One moulding section split into three pieces while being removed from door. It's delicate stuff!



Gluing original moulding back together gives you something to compare profiles when working new timber



Transfer existing profile on to MDF board with gauge used earlier. This helps when selecting your cutters



Thickness new timber to overall size required. Old moulding measures 68 x 28mm



Measure and add quide lines with combination square on offcut machined to same overall dimensions



Make initial cut with narrow veining cutter to form channel between two convex curves



Mark ends of timber before forming deep rebate (removing waste) using router table and straight bit



To assess progress, saw old moulding at 90° to reveal accurate cross section

### Takes: one weekend

## **BOLECTION MOULDING**



Draw around original moulding to help determine where to remove more wood with straight cutter



Use of core bit is easiest way to form groove at lowest point on moulding. Check against pencilled end



Small block plane is surprisingly useful for shaping convex curves. Adjust depth of cut as necessary



Use narrow shoulder plane to shape wood tight into channels, changing angle on each stroke



After planing to approximate shape, inish with 120-grit abrasive paper wrapped around dowelling



Measure and saw mitre on one end of moulding. Hold in place on door and mark the opposite end



Check each section of moulding for fit and trim mitred ends with block plane if too tight



Once sections are ready to fit, paint reverse side and edges with oil-based primer and allow to dry



Pre-drill fixing holes to avoiding splitting timber. Fix to door with suitable lost-head nails



Punch heads below surface and conceal holes with suitable filler, such as Rustins Professional



Tools used to create new moulding included three router bits, shoulder and block planes, plus abrasives



Finished bolection moulding fitted to doors. Once painted, new sections will blend in with original

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### Useful kit Black & Decker Autosense 18V drill driver

## Hard to beat

Black & Decker's latest cordless drill/ driver is a beauty. In recent years its drills have looked slightly dated compared with competitors', but this new 18V Autosense model is definitely funkier than most. Almost entirely covered in textured black rubber, this contrasts nicely with B&D's familiar orange livery. A new logo sets the tool apart from earlier models, too. But surely nobody buys a power tool on looks alone? Let's take a closer look...

Strictly a drill/driver, there's no hammer action, which could deter anyone who wants just a single tool that also handles masonry drilling. But for general work around house or workshop this B&D could be hard to beat. It's really compact, measuring 170mm from front to back, and weighs 1.25kg. Grip the handle and you'll find it's perfectly balanced, too.

On the downside, chuck capacity is only 10mm, but to be honest, how often do you actually need a 13mm chuck? The singlesleeve design means only one hand is needed to tighten the jaws.

Featuring B&D's Autoselect technology, up top are two soft-touch selector buttons, with bold drill and screw icons. Pressing either button illuminates a corresponding blue LED, setting a maximum speed of 800rpm for drilling, which is rather slow. There's also a 4-stage battery level indicator that glows green, with all LEDs shutting off after about 15 seconds of inactivity.

Variable speed is controlled by the trigger. with standard forward/reverse button above it. The top speed is on the slow side, so you'll need patience when drilling, though for smaller diameters it's fine. Maximum torque is 28Nm in screwdriver mode. As you'd expect, there's an LED worklight at the base of the tool, while adjacent is a clip for a double-ended hex bit.

### No quesswork

So what is B&D's Autosense technology? Essentially a smart tool, it means that quesswork is removed when choosing torque for driving screws. There's no torque collar to worry about, so once you've selected driver mode the tool stops rotating once a screw head is flush with the surface. To recess the head deeper, keeping the trigger activated gives short bursts of a quarter turn, creating micro-depth adjustment. Clever stuff, and the



The handle is perfectly balanced



The jaws can be tightened with one hand



The forward/reverse button is above the variable-speed trigger

tool will even stop driving a screw fully home if it detects changes in material density.

Only one 1.5Ah Li-Ion battery is supplied, but with a fuel gauge at least you get fair warning of when recharging is required. A second battery pack will set you back about £40 if you shop around. The compact charger unit simply slides on to the battery pack, though ideally the mains cable could be heavier. While on charge a green flashing LED is displayed, becoming solid green when fully charged, while red indicates a problem. Charge time is about three hours.





Look at the choice offered by these selection huttonsl

### **Conclusion**

I've been using this drill for some months now and have to say it's one of the most userfriendly DIY power tools I've come across. I was impressed by how much work the tool got through before recharging was necessary, and that had to be done only rarely.

\*\*\*\*

Typical price: £79.99 Made in: China

Web: www.blackanddecker.co.uk

# Useful kit: Silky Mini Mini Saw Delley wild wing ?

## Handy little saw

Japanese saws come in various formats and, as the name suggests, this Silky is possibly one of the smallest. Available in three versions, the yellow tool is for cutting wood, while there are similar saws for plastics (green) and metals (blue). It's quite a sturdy little tool, and the metal handle is completely encased in soft-grip textured rubber, making it comfortable to use. Blade length is 150mm and this is replaceable. You simply unscrew the yellow screw and slide out the blade. A clip-on plastic guard is provided. Similar to some hardpoint saws, the tiny teeth cut on both pull and push stroke. Like any Japanese saw the cut is pretty fine, though I didn't find it as controllable as, say, a *dozuki* tenon saw. Although the Silky is quite pricey, it's a handy little tool for cutting dowelling or moulding to length, and doesn't take up too much space in the toolbox.

\*\*\*\* Typical price: £25 Made in: Japan Web: www.niwaki.com



Remove the guard...



...and simply unscrew and slide out the blade

## Useful product: Grime Boss hand wipes

## Grime busters

In these health and safety-conscious days the majority of us probably take more care of our hands, particularly when handling **glues or stains.** Most of the time it's not really practical to wear disposable gloves,



though I keep a box of these handy for jobs such as staining timber. Inevitably we end up with stuff on our fingers that's difficult to shift with soap and water. For woodworkers, obvious chemicals are polyurethane and epoxy adhesives, both nasty and difficult to remove. A pack of heavy-duty hand wipes is the solution and these can be used for wiping up spillages as well as cleaning your pinkies. Grime Boss Heavy Duty wipes are a decent size (about 250 x 200mm each) and have one smooth side, while the other is textured for tougher cleaning. With aloe vera and vitamin E to help moisturise skin, they have a pleasant citrus fragrance and contain no harsh chemicals. Available in packs of 10, 30 or 60 wipes, they're ideal for workshop or garage.

\*\*\*\*

Typical price: £4.99 for 30 **Web:** grimeboss.co.uk



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# Turbo-drive!



Les Thorne
powers off
his lathe to
carve texture

using the Arbortech Turboplane his piece takes me right back. My formative years in woodturning demonstration were with Brimarc Associates and as their turning demonstrator I was using the Arbortech from Australia to texture and carve my work.

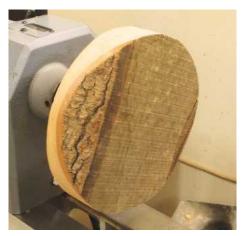
When I heard about the Turboplane I thought I would investigate its potential in my line of work. I would normally hold the tool against the revolving wood and create a texture that way, but the unique design of this tool makes this not possible – not really a problem as it certainly wasn't designed as a woodturning tool, and anyway I'd already decided to carve the piece stationary.

Using a carving tool like the Arbortech

does require some practice, so work on a flat horizontal piece held securely on a bench before you try and work in the vertical as I do in this project.

Colouring and texturing woodturning is not everyone's cup of tea – comments like "you've ruined that wood" are not unusual when I demonstrate this at shows and clubs – but I think of it as an extension to the craft; indeed some people are getting into turning as a result of the artistic side becoming better known. Texturing to me adds another dimension to the work; sometimes I am trying to age the piece by removing the softer growth; other times I am creating a different tactile experience from just plain smooth wood.

## **Texturing**



▲ Pic.1 This is the way to get the best out of a board of timber. The shaping of the shallow bowl will remove any bark from this piece of ash, saving wastage



▲ Pic.2 Most of the work will be carried out with the 13mm-diameter bowl gouge with the wings of the tool ground back and the 10mmdiameter tool with a straight-across grind



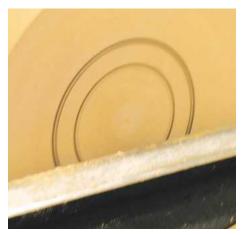
▲ Pic.3 The bigger tool is used for pull cutting and will remove lots of material. To get the best from this tool keep the flute slightly open and the handle down



▲ Pic.4 A finer cut can be achieved by closing the flute and turning the cut into more of a shear cut. Les is using it just to true up the base



▲ Pic.5 A tool sharpened like this is so versatile: a push technique on the edge gives the best finish; a pull cut could lead to the tool catching, especially if it overhangs the toolrest too much



▲ Pic.6 For easy working Les is going to use a stepped spigot on the bowl. The smaller one is for the chuck which will be removed, and the larger one is the base of the bowl



▲ Pic.7 A paring tool could be used as they need only be about 5mm deep. If you don't want to lose bowl thickness then glue a sacrificial scrap wood block on the base and turn the spigot on that



▲ Pic.8 If you look at the profile of the bowl you can see the ogee shape that Les is after. If you take lighter pull cuts a better surface finish will be achieved



▲ Pic.9 He likes to make a final cut on his bowls with a freshly sharpened bowl gouge and has changed from a left hand over to underhand grip for this push cut, removing 1mm at this stage

## Turning



▲ Pic.10 Here's the difference between what he started with and the finish that can be achieved. Even though he is going to heavily texture the piece he does like to start off with a wellturned surface



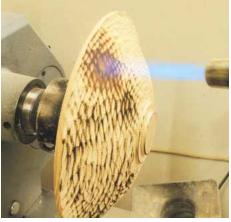
▲ Pic.11 This is his new tool, the Turboplane. Les has fitted it onto the mini-industrial carver form Arbortech. Eye protection in the form of a full-face shield is essential



▲ Pic.12 Carve the bowl with the lathe stationary. Try and keep both hands on the tool until you become proficient at working the tool safely. Dabbing the tool against the surface works best



▲ Pic.13 Les has ended up with pretty uniform scallops in the surface, reminiscent of sand dunes. On this particular piece of ash the tool left a finish that needed a little more smoothing off



▲ Pic.14 The rough parts of a textured surface are best burnt off using a standard blowtorch to just singe the wood, taking care not to put too much heat into the wood, which could crack it



▲ Pic.15 You will need to remove the carbon before you put any finish onto the wood. A soft brass or a stiff bristle brush is best as anything too stiff like a steel brush would scratch the wood



▲ Pic.16 Remount the blank on the chuck after truing up the face texture of the top for about a third of the diameter. This can cause the edge to get sharp in places so round it off with a piece of 80 grit



▲ Pic.17 Cut a groove 3mm wide x 3mm deep where you want the texture to end and the bowl to begin. Spray the whole thing, including the groove, black with ebonising lacquer



▲ Pic.18 Using coarse abrasive sand off the high parts of the texture. The more you sand the more colour you will get on the piece. Progress through the grits down to 400

## **Texturing** §



▲ Pic.19 Using spirit stain means the colour will only show up on the natural wood not the black. Les has used yellow to contrast with the black background. Rub it onto the wood with a rag



▲ Pic.20 Sanding, sealing and then lacquering is the best finish for coloured and textured work. The rub-on finish of acrylic sprays can move the colour around on the surface



▲ Pic.21 To give easy access to the bowl centre Les has swivelled the head on the lathe. If you intend to do a lot of bowl and box work it's worth taking a look at a lathe with this facility



▲ Pic.22 When you have a decorated edge like on this bowl you will need to take extra care when making the first cuts. You can see how the tool has skated along the face



▲ Pic.23 Hold the tool firm and start the hollowing. Using your left thumb as a back stop will help when making the incision. Move the tool round in an arc



▲ Pic.24 When hollowing tuck the tool into your side so you can move your body around easily. The hand-over grip allows the tool to slide through Les's hands as the tool advances



▲ Pic.25 To gauge shape and depth as he works down, Les likes to hollow his bowls in a series of steps. The small bevel of the traditional grind supports the cutting edge without too much pressure

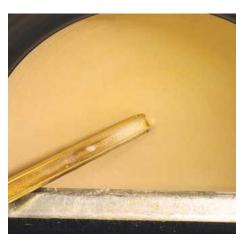


▲ Pic.26 The groove cut earlier acts as a punctuation point between the coloured and the natural wood. Leave 1-2mm of the groove on the edge of the inside of the bowl



▲ Pic.27 There is no substitute for feel woodturner's grope. Every time another turner picks up your bowl they will run their fingers along the curve so make sure you get it right

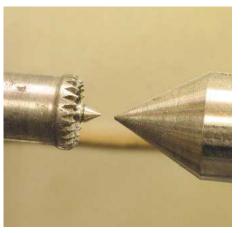
## Turning



▲ Pic.28 The pip in the middle is difficult to get rid of. This trick was shown to me by Nick Agar: slow the feed speed of the tool so you leave a tiny shaving in the flute at the end of the cut



▲ Pic.29 The uneven sanding is due to the gaps between the growth rings on the ash. The area on the left is softer than the rest of the bowl



▲ Pic.30 Before the chucking spigot is removed, the centres must be checked for alignment due to the lathe head being swivelled. If you don't do this you run the risk of ruining your work



▲ Pic.31 Les friction drives the bowl between centres. Mount something on the headstock and use some rubber and tissue on the face so that you will not mark the centre of the bowl



▲ Pic.32 Take light cuts with a small tool. The more you remove the less you will have to hand finish but don't go too far - you don't want to ruin the bowl at this stage



▲ Pic.33 Remove the last bit by hand with a skew chisel. Doing It slightly at an angle to the grain means that you are not digging into the surface of the base



▲ Pic.34 Power sand the base using an arbor mounted in a power drill. Progress through the grits to 400. Finish the bowl with either lemon or Danish oil



▲ Pic.35 I have signed this using a pyrography machine. Burning a signature into the base is a great permanent record. Lightly sand the surface afterwards to remove any loose burnt bits



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#### **FIDDLERS OF ROUEN**

Among the flamboyant churches and carved timber-framed houses of Rouen are old-style small workshops where craftsmen still work at benches behind shop windows just a few feet from passing pedestrians. There Barrie Scott met luthier Monsieur Fix-it...

#### **TOP ACCOLADE**

The Wood Awards represent everything that Good Wood stands for: excellence in concept, design, materials and construction in all aspects of woodwork, so we are delighted to showcase some of the shortlisted projects which get their first airing at 100% Design, 23-26 September. Endgrain, pictured, by Raw Edges, features dyed wood.

#### **WIRELESS CHARGING'S HERE**

Getting on for 18 months ago we came back from Berlin all agog at the wireless charging system Bosch was developing. Well, it's here and in this issue we'll be reporting on its use with the 18V combi drill

#### PLUS...

Michael Huntley makes a knuckle joint, Dave Roberts, Jeff Gorman and Stephen Simmons offer lots of sometimes quirky but always sensible solutions, Andy King tests the latest tools and products, Phil Davy keeps busy Around the House and Les Thorne fires up his lathe

# Finishing Touch

## The oak, or How many trees to build a farmhouse?

The oak is such an iconic 'British' tree that it had a conference all to itself at The Weald and Downland Open Air Museum in West Sussex. Michael Huntley reports on it



Timber framing in the modern Gridshell building

The first surprise was that we don't have a monopoly on oaks. We have only two species in Europe, there are 100 species in Mexico and 600 species worldwide, mostly in the temperate zone just above the Equator.

Dr Damian Goodburn, well known through Channel 4's Time Team, brought along various samples of historic oak, some of which was felled and used in Neolithic times, see Bar Salone in GW295, some Bronze Age oak and some Roman fencing. What is interesting about the Romans from a woodworking point of view is that they used similar tools to those we use now. However, the Romans left in 410AD and tool use changed then, according to Dr Goodburn; saws went out and axes came in. When the Normans invaded in 1066 they used the Saxon woodwrights to do building work, but it seems that sawn timbers and joinery were not commonplace again until carpenters came over from France in about 1180. So our carpentry tradition is actually French.mon dieu.

Museum carpenter Joe Thompson spoke about one of the Museum's houses, the 15th-century Bayleaf Farmhouse. This was furnished by Joe's predecessor, Roger Champion, in handmade oak furniture of the correct style – unlike most museums you can actually touch and open the furniture. Joe's talk built on work that had been undertaken by



The size of the Gridshell makes this completed frame look tiny



Log on to the Weald and Downland website to check out wood craft courses and talks

Professor Oliver Rackham, who died recently, and much of the conference was dedicated to him. His book Trees and Woodland in the British Landscape was one of the main influences that brought the state of British woodlands to public attention in the 1970s and '80s

Rackham said that the medieval definition of wood was that it came from a tree less than 6-8in diameter whereas timber came from trees that are more than 8in in diameter. There is a scale of 'classes' of timber going from small 6in diameter right up to 20in diameter which would be known, according to Dr Goodburn, as 'board trees' because you could get decent boards out of them. An analysis of the timbers of Bayleaf indicates that it took 232 trees to build it, with the oldest trees being only between 50- and 80-years-old. So in oak terms, a timber-framed house is built from quite young trees. A mature oak can be upper hundreds or a thousand-vears-old. Ioe calculated that it would have taken three carpenters six months to hew, joint and erect Bayleaf Farmhouse and that 4½ acres of woodland would have been needed to grow sufficient trees of the right age and size.

There is much more about oak and British trees and woodwork at the Museum. Details of its opening times can be found at http://www. wealddown.co.uk/visit/











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